

# CARNEGIE BEAM SECTIONS

PROFILES AND PROPERTIES



CARNEGIE STEEL COMPANY

PITTSBURGH, PA.

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# CARNEGIE BEAM SECTIONS

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**PROFILES AND PROPERTIES**  
PERTAINING TO A  
**NEW SERIES**  
OF  
**STRUCTURAL STEEL BEAMS**  
AND  
**COLUMN SECTIONS**

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MANUFACTURED BY  
**CARNEGIE STEEL COMPANY**  
PITTSBURGH, PA.

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Pittsburgh, Pa.

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SINCE the adoption of the present American Standard Beam Sections, in 1896, developments of such magnitude have taken place in the structural steel industry, both at home and abroad, as to demand an improved series of rolled sections suitable for both beam and column purposes.

The series now placed on the market under the name **CARNEGIE BEAM SECTIONS**, provides for this demand by means of a series of shapes combining sound engineering principles with practical improvements. All its sections are produced on a structural mill of the most advanced type.

The series provides a range of rolled steel beam and column sections progressing by regular steps, with contours that will permit sections to be used interchangeably for whichever purpose they are adapted, and in sizes and weights sufficiently varied to meet all ordinary requirements. Their efficiency is high and their component parts are proportioned to permit of ready fabrication.

#### ADVANTAGES

The advantages characterizing the new series of Carnegie Beam Sections will be explained under the following captions:—

CONTOUR DESIGN  
WEB AND FLANGE RATIO  
RANGE OF SIZES  
PROGRESSIVE BEAM DESIGN  
IMPROVED COLUMN DESIGN

## CARNEGIE STEEL COMPANY

### CONTOUR DESIGN

A new form of contour has been adopted whose principal characteristic is the elimination of internal flange slope, the flanges being of uniform thickness throughout their width. This feature increases the strength of the section, permits simpler connections and facilitates fabrication.

Carnegie Beam Sections permit the use of maximum unit stresses in shear and compression for resistance to web buckling and flange crippling, respectively, in conformity with usual building specifications. All fillets, which are parabolic in form, combine maximum spread with minimum area.

### WEB AND FLANGE RATIO

In the production of most of the Carnegie Beam Sections a method is used whereby an adequate variety of weights in each group, having substantially equal efficiency per pound, is attained by spreading both horizontal and vertical rolls a proportionate amount. This practice causes the depth of sections to vary somewhat from the nominal, but this variation is kept within limits that will not affect the standardization of details.

A second characteristic, found in the heavier groups of column sections, is an increase in width as compared with depth, combining maximum economy in design of framing and in floor space.

### RANGE OF SIZES

Carnegie Beam Sections provide a range of beam and column shapes, from 8 to 30 inches deep and from 5 to 16 inches wide, in weights up to 305 pounds per linear foot, with section moduli about the major axis up to 738 in.<sup>3</sup>, and with radii of gyration about the minor axis up to 4.14 in.

In general, no sharp line has been drawn between beams, girder beams and columns. The consequent economy in number of sections will insure better deliveries, reduce the number of sizes carried in stock, and allow a greater standardization in shop methods and tools.

Profiles, dimensions and weights are given on pages 8 to 30. Other data pertaining to dimensions and properties are tabulated on pages 32 to 41.

The range of depths in which occurs the greatest normal demand is covered by the adoption of sections 14 and 16 inches deep, affording the designer a better and more economical selection of sections to be used as beams.



## CARNEGIE BEAM SECTIONS

### PROGRESSIVE BEAM DESIGN

The introduction of the 14 and 16 inch Carnegie Beam Sections gives a progressive series in which each depth is approximately 15 per cent. greater than the preceding depth, as shown graphically on range charts on pages 32 and 33. In addition, successive weights in each group are so arranged that their strengths progress by steps having close and approximately regular ratios of increase.

Intermediate groups of heavier sections, of the same depth but with wider flanges and greater strength, are provided for use as beams in structures where it is important to limit the depth of section. These sections are also suitable for columns.

The selectivity of the series for use as beams is indicated graphically in the tables and charts on pages 32 to 35.

Minimum weights of 10-, 12-, 14- and 16-inch sections are offered with a uniform width of 6 inches, which permits a corresponding uniformity in fireproofing and finish.

Very complete groups of sections 24, 27 and 30 inches deep, are provided with flanges 14 inches wide. These will be found convenient for use in structures that cannot be braced laterally and may also be used to advantage where limited clearance is an important factor in design.

Efficient sections, notably 12 inches and deeper, are provided with webs  $\frac{3}{8}$  inch in thickness, in order to comply with specifications requiring a minimum thickness of metal.

### IMPROVED COLUMN DESIGN

Carnegie Beam Sections include two groups: a **Variable-Depth Type** and a **Constant-Depth Type**. The sections of the latter group are intended primarily for columns, though sections of either type may also be used as beams or girders. In the **Variable-Depth Type** both depth and width increase proportionately as weights increase from the minimum. In the **Constant-Depth Type** the depth does not change, the increase in weights being obtained by thickening the web and widening the flanges. With the heavier groups of both types, high properties about the minor axis are secured by the proportions adopted.

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The **Variable-Depth Type** contains notably sections of the following depth, flange width and weights:—

CB 83	8" x 8"	31 to 90 lbs.
CB 145	14" x 12"	85 to 105 lbs.
CB 146	14" x 15"	115 to 305 lbs.

These sections will be used principally as columns.

In addition, sections 8, 9, 10, 12 and 14 inches deep, are provided having intermediate flange widths which may be used either as beams in shallow floors or as light columns.

The **Constant-Depth Type** is offered in two depths only, 10 and 12 inches, with the following flange widths and weights:—

CB 102	10" x 8"	31 to 42 lbs.	CB 124	12" x 10"	75 to 100 lbs.
CB 103	10" x 9"	49 to 63 lbs.	CB 125	12" x 12"	110 to 140 lbs.
CB 104	10" x 10"	70 to 92 lbs.	CB 126	12" x 14"	150 to 180 lbs.
CB 105	10" x 12"	100 to 140 lbs.	CB 127	12" x 14"	190 to 230 lbs.

The 10-inch series will take care of an ordinary 12-story building, while the 12-inch series, in conjunction with the 10-inch series, will take care of an ordinary 18-story building. If desired, the scope of any group can be extended by reinforcement with flange plates.

The **Constant-Depth Type** presents an innovation in rolled steel column sections in that the over-all depth for all sizes of a nominal depth does not vary. The advantages of this feature are reflected in the symmetry of beam and spandrel framework connecting to the columns at a number of successive floors in a steel building, thus effecting a substantial saving in the drafting room, fabricating shop and in the field. The avoidance of fillers under splices on the columns themselves is also advantageous. To the architect and the general contractor constant depth is valuable in that it permits a greater uniformity in fireproofing and finish.

### MISCELLANEOUS DATA

All weights per linear foot of Carnegie Beam Sections are expressed in whole pounds. Fillets are included in weights, areas and other properties.

The dimensions to which the rolls for Carnegie Beam Sections are turned extend to three decimal places of an inch, as shown on diagrams on pages 8 to 29, but it will be more convenient for the designer to use the fractions to which they have been rounded in the tables of dimensions of sections on pages 33 to 41.

Carnegie Beam Sections will be furnished to the specifications of the Association of American Steel Manufacturers, American Society of Testing Materials or to such other acceptable standard specifications as may be required.

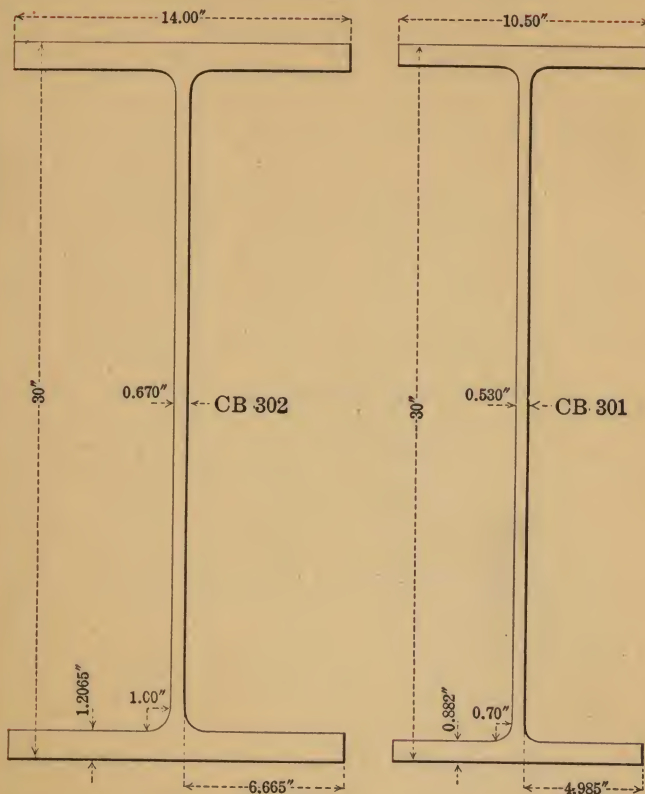
CARNEGIE  
BEAM SECTIONS

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PROFILES AND DIMENSIONS

# CARNEGIE STEEL COMPANY

## CARNEGIE BEAM SECTIONS

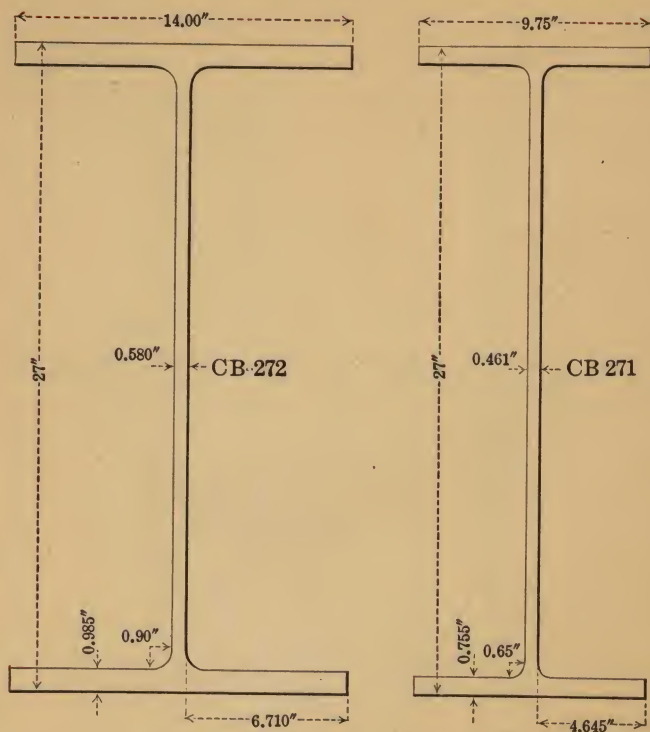


Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 302	30.781	30 <sup>2</sup> / <sub>32</sub>	240	14.218	14 <sup>7</sup> / <sub>32</sub>	1.597	1 <sup>19</sup> / <sub>32</sub>	0.888	5 <sup>7</sup> / <sub>16</sub>
	30.522	30 <sup>3</sup> / <sub>16</sub>	220	14.146	14 <sup>9</sup> / <sub>16</sub>	1.4675	1 <sup>15</sup> / <sub>16</sub>	0.816	13 <sup>1</sup> / <sub>16</sub>
	30.263	30 <sup>1</sup> / <sub>8</sub>	200	14.073	14 <sup>5</sup> / <sub>16</sub>	1.338	1 <sup>11</sup> / <sub>16</sub>	0.743	3 <sup>1</sup> / <sub>4</sub>
	30.000	30	180	14.000	14	1.2065	1 <sup>13</sup> / <sub>16</sub>	0.670	43 <sup>1</sup> / <sub>16</sub>
CB 301	30.298	30 <sup>1</sup> / <sub>8</sub>	135	10.591	10 <sup>1</sup> / <sub>16</sub>	1.031	1 <sup>1</sup> / <sub>16</sub>	0.621	5 <sup>1</sup> / <sub>8</sub>
	30.148	30 <sup>3</sup> / <sub>16</sub>	125	10.546	10 <sup>3</sup> / <sub>16</sub>	0.956	6 <sup>1</sup> / <sub>16</sub>	0.576	3 <sup>7</sup> / <sub>16</sub>
	30.000	30	115	10.500	10 <sup>1</sup> / <sub>2</sub>	0.882	7 <sup>1</sup> / <sub>8</sub>	0.530	1 <sup>1</sup> / <sub>32</sub>



# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued

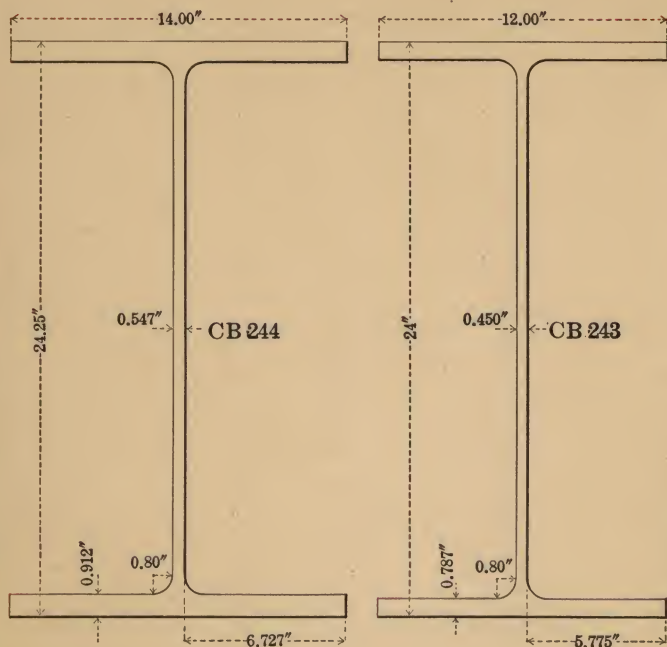


Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 272	27.598	27 <sup>1</sup> / <sub>2</sub>	190	14.176	14 <sup>1</sup> / <sub>8</sub>	1.284	1 <sup>1</sup> / <sub>2</sub>	0.756	3/ <sub>4</sub>
	27.400	27 <sup>1</sup> / <sub>2</sub>	175	14.118	14 <sup>1</sup> / <sub>8</sub>	1.185	1 <sup>1</sup> / <sub>8</sub>	0.698	4 <sup>5</sup> / <sub>16</sub>
	27.200	27 <sup>1</sup> / <sub>2</sub>	160	14.059	14 <sup>1</sup> / <sub>8</sub>	1.085	1 <sup>1</sup> / <sub>8</sub>	0.639	4 <sup>1</sup> / <sub>8</sub>
	27.000	27	145	14.000	14	0.985	0 <sup>3</sup> / <sub>4</sub>	0.580	3 <sup>3</sup> / <sub>4</sub>
CB 271	27.340	27 <sup>1</sup> / <sub>2</sub>	112	9.855	9 <sup>5</sup> / <sub>16</sub>	0.925	5 <sup>9</sup> / <sub>16</sub>	0.566	9/ <sub>16</sub>
	27.166	27 <sup>1</sup> / <sub>2</sub>	101	9.799	9 <sup>5</sup> / <sub>16</sub>	0.838	2 <sup>3</sup> / <sub>8</sub>	0.510	3 <sup>3</sup> / <sub>8</sub>
	27.000	27	91	9.750	9 <sup>3</sup> / <sub>4</sub>	0.755	3/ <sub>4</sub>	0.461	1 <sup>5</sup> / <sub>16</sub>



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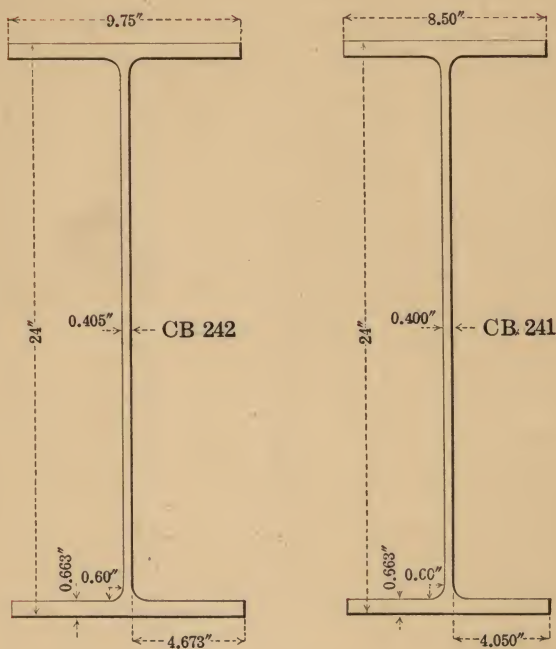
CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 244	24.664	$24\frac{21}{32}$	160	14.123	$14\frac{1}{8}$	1.119	$1\frac{1}{8}$	0.670	$\frac{43}{64}$
	24.526	$24\frac{17}{32}$	150	14.082	$14\frac{3}{64}$	1.050	$1\frac{3}{64}$	0.629	$\frac{5}{8}$
	24.388	$24\frac{23}{64}$	140	14.041	$14\frac{3}{64}$	0.981	$\frac{63}{64}$	0.588	$\frac{19}{32}$
	24.250	$24\frac{1}{4}$	130	14.000	14	0.912	$29\frac{1}{32}$	0.547	$35\frac{3}{64}$
CB 243	24.310	$24\frac{5}{16}$	120	12.089	$12\frac{3}{32}$	0.942	$1\frac{5}{16}$	0.539	$1\frac{7}{32}$
	24.156	$24\frac{1}{32}$	110	12.044	$12\frac{3}{64}$	0.865	$55\frac{3}{64}$	0.494	$\frac{1}{2}$
	24.000	24	100	12.000	12	0.787	$25\frac{1}{32}$	0.450	$29\frac{3}{64}$

# CARNEGIE BEAM SECTIONS

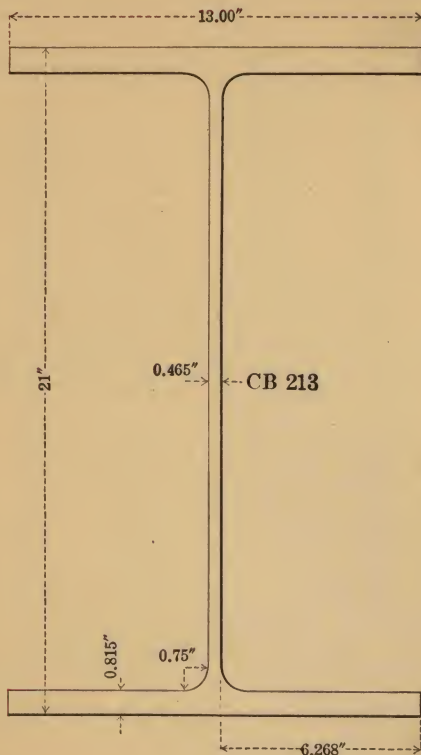
## CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 242	24.308	$24\frac{5}{16}$	94	9.844	$9\frac{2}{32}$	0.817	$1\frac{1}{16}$	0.499	$\frac{1}{2}$
	24.154	$24\frac{3}{32}$	85	9.797	$9\frac{5}{64}$	0.740	$\frac{4}{16}$	0.452	$2\frac{3}{64}$
	24.000	24	76	9.750	$9\frac{3}{4}$	0.663	$2\frac{1}{32}$	0.405	$1\frac{3}{32}$
CB 241	24.000	24	70	8.500	$8\frac{1}{2}$	0.663	$2\frac{1}{32}$	0.400	$1\frac{3}{32}$

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CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 213	21.248	21 <sup>1</sup> / <sub>4</sub>	120	13.070	13 <sup>1</sup> / <sub>16</sub>	0.939	1 <sup>5</sup> / <sub>16</sub>	0.535	1 <sup>3</sup> / <sub>32</sub>
	21.126	21 <sup>1</sup> / <sub>8</sub>	112	13.034	13 <sup>1</sup> / <sub>32</sub>	0.878	<sup>7</sup> / <sub>8</sub>	0.499	<sup>1</sup> / <sub>2</sub>
	21.000	21	104	13.000	13	0.815	1 <sup>1</sup> / <sub>16</sub>	0.465	1 <sup>5</sup> / <sub>32</sub>

# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued

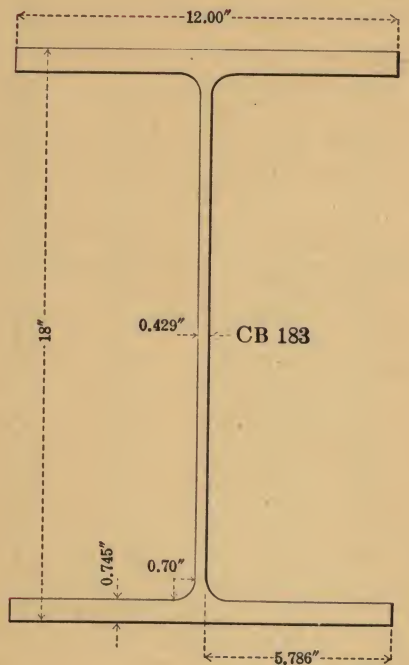


Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 212	21.240	21 $\frac{1}{4}$	92	9.064	9 $\frac{1}{16}$	0.935	1 $\frac{5}{16}$	0.502	$\frac{1}{2}$
	21.120	21 $\frac{1}{8}$	86	9.032	9 $\frac{1}{8}$	0.875	$\frac{7}{8}$	0.470	1 $\frac{3}{4}$
	21.000	21	80	9.000	9	0.815	1 $\frac{3}{16}$	0.438	$\frac{7}{16}$
CB 211	21.248	21 $\frac{1}{4}$	70	8.073	8 $\frac{3}{16}$	0.732	4 $\frac{3}{16}$	0.433	$\frac{7}{16}$
	21.126	21 $\frac{1}{8}$	64	8.036	8 $\frac{1}{8}$	0.671	4 $\frac{3}{16}$	0.396	2 $\frac{3}{16}$
	21.000	21	58	8.000	8	0.608	3 $\frac{9}{16}$	0.360	2 $\frac{3}{16}$
	*21.034	21 $\frac{1}{4}$	60	8.015	8 $\frac{1}{16}$	0.625	$\frac{5}{8}$	0.375	$\frac{3}{8}$

\*Special Section Web Thickness  $\frac{3}{8}$ ".

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CARNEGIE BEAM SECTIONS—Continued

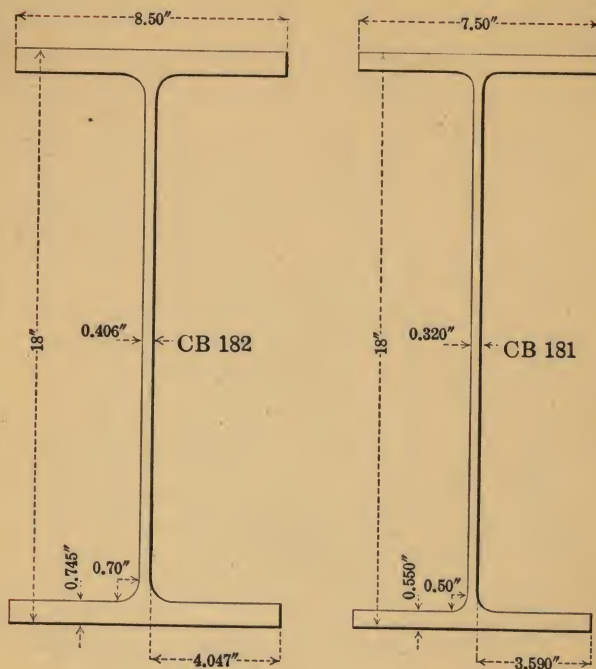


Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 183	18.238	$18\frac{5}{64}$	100	12.069	$12\frac{1}{16}$	0.864	$5\frac{5}{64}$	0.498	$\frac{1}{2}$
	18.120	$18\frac{1}{8}$	93	12.034	$12\frac{1}{32}$	0.805	$1\frac{1}{16}$	0.463	$1\frac{5}{32}$
	18.000	18	86	12.000	12	0.745	$\frac{3}{4}$	0.429	$2\frac{3}{64}$



# CARNEGIE BEAM SECTIONS

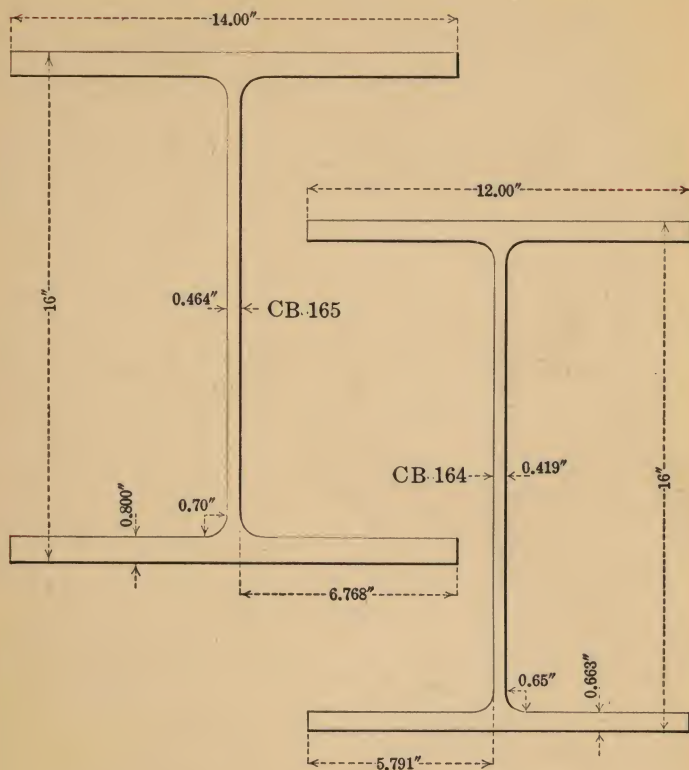
## CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 182	18.242	18 $\frac{1}{4}$	78	8.565	8 $\frac{1}{2}$	0.866	$\frac{5}{8}$	0.471	1 $\frac{1}{2}$
	18.110	18 $\frac{1}{4}$	72	8.530	8 $\frac{1}{2}$	0.800	$\frac{5}{8}$	0.436	$\frac{7}{8}$
	18.000	18	67	8.500	8 $\frac{1}{2}$	0.745	$\frac{3}{4}$	0.406	1 $\frac{1}{2}$
CB 181	18.252	18 $\frac{1}{4}$	58	7.573	7 $\frac{3}{4}$	0.676	$\frac{4}{8}$	0.393	2 $\frac{3}{4}$
	18.114	18 $\frac{1}{4}$	52	7.534	7 $\frac{1}{2}$	0.607	$\frac{3}{8}$	0.354	2 $\frac{3}{4}$
	18.000	18	47	7.500	7 $\frac{1}{2}$	0.550	$\frac{3}{8}$	0.320	$\frac{5}{8}$
	*18.024	18 $\frac{1}{2}$	51	7.555	7 $\frac{1}{2}$	0.562	$\frac{9}{16}$	0.375	$\frac{3}{8}$

\*Special Section Web Thickness  $\frac{3}{8}$ ".

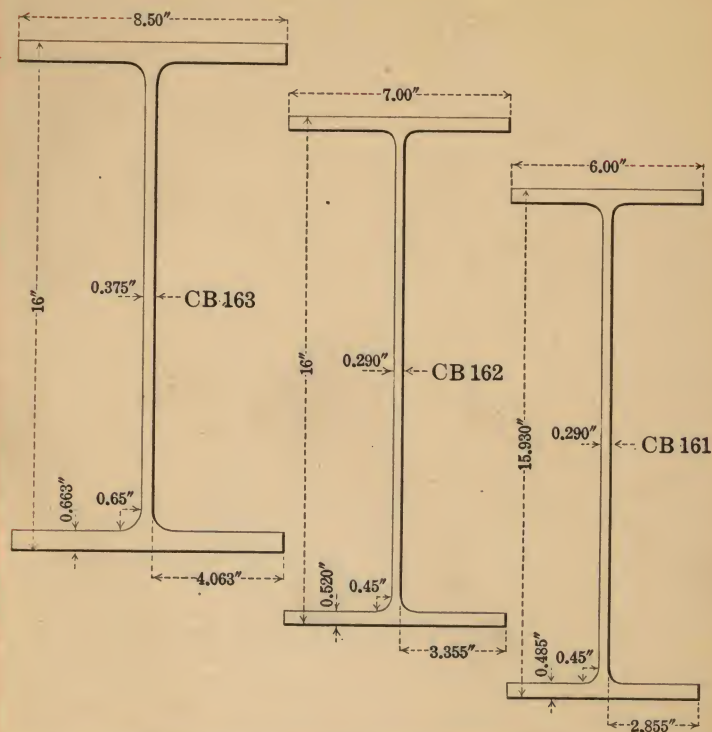
## CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 165	16.236	$16\frac{1}{4}$	115	14.068	$14\frac{1}{4}$	0.918	$\frac{5}{8}$	0.532	$1\frac{1}{2}$
	16.110	$16\frac{3}{4}$	107	14.032	$14\frac{1}{2}$	0.855	$\frac{5}{8}$	0.496	$\frac{1}{2}$
	16.000	16	100	14.000	14	0.800	$\frac{5}{8}$	0.464	$1\frac{1}{2}$
CB 164	16.240	$16\frac{1}{4}$	90	12.076	$12\frac{3}{4}$	0.783	$2\frac{5}{8}$	0.495	$\frac{1}{2}$
	16.120	$16\frac{1}{2}$	83	12.039	$12\frac{1}{2}$	0.723	$2\frac{3}{8}$	0.458	$2\frac{9}{16}$
	16.000	16	76	12.000	12	0.663	$2\frac{1}{8}$	0.419	$2\frac{7}{16}$

# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued

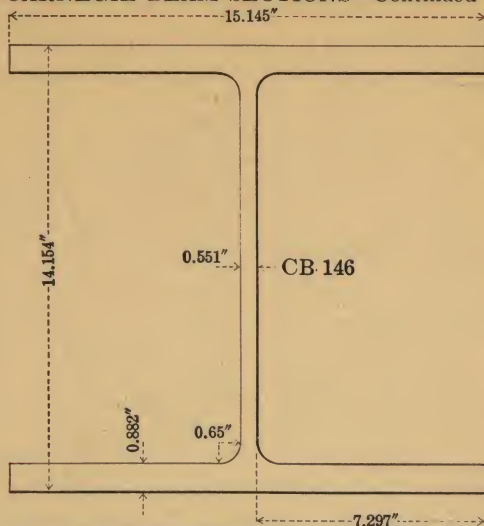


Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 163	16.226	16 $\frac{3}{32}$	68	8.563	8 $\frac{9}{16}$	0.776	2 $\frac{5}{16}$	0.438	$\frac{7}{16}$
	16.114	16 $\frac{7}{64}$	63	8.531	8 $\frac{1}{32}$	0.720	2 $\frac{3}{16}$	0.406	1 $\frac{3}{32}$
	16.000	16	58	8.500	8 $\frac{1}{2}$	0.663	2 $\frac{1}{16}$	0.375	$\frac{3}{8}$
CB 162	16.254	16 $\frac{1}{4}$	50	7.072	7 $\frac{5}{64}$	0.647	4 $\frac{1}{64}$	0.362	2 $\frac{3}{64}$
	16.128	16 $\frac{1}{8}$	45	7.036	7 $\frac{1}{32}$	0.584	3 $\frac{7}{64}$	0.326	2 $\frac{1}{64}$
	16.000	16	40	7.000	7	0.520	3 $\frac{3}{64}$	0.290	1 $\frac{9}{64}$
	*15.934	15 $\frac{1}{16}$	43	7.085	7 $\frac{5}{64}$	0.487	3 $\frac{1}{64}$	0.375	$\frac{3}{8}$
CB 161	16.012	16 $\frac{1}{64}$	38	6.024	6 $\frac{1}{32}$	0.526	1 $\frac{7}{32}$	0.314	$\frac{5}{16}$
	15.930	15 $\frac{1}{16}$	35	6.000	6	0.485	3 $\frac{1}{64}$	0.290	1 $\frac{9}{64}$

\*Special Section Web Thickness  $\frac{3}{8}$ ".

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## CARNEGIE BEAM SECTIONS—Continued



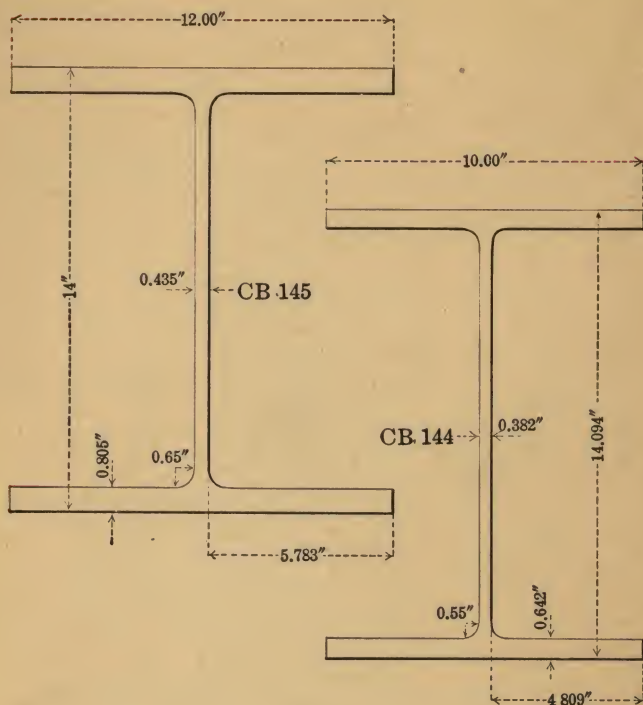
Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 146	16.890	16 <sup>5</sup> / <sub>64</sub>	305	16.000	16	2.250	2 <sup>1</sup> / <sub>4</sub>	1.406	1 <sup>1</sup> / <sub>32</sub>
	16.752	16 <sup>3</sup> / <sub>4</sub>	295	15.956	15 <sup>8</sup> / <sub>64</sub>	2.181	2 <sup>3</sup> / <sub>16</sub>	1.362	1 <sup>2</sup> / <sub>32</sub>
	16.614	16 <sup>3</sup> / <sub>64</sub>	285	15.912	15 <sup>2</sup> / <sub>32</sub>	2.112	2 <sup>3</sup> / <sub>64</sub>	1.318	1 <sup>5</sup> / <sub>16</sub>
	16.472	16 <sup>1</sup> / <sub>32</sub>	275	15.870	15 <sup>1</sup> / <sub>8</sub>	2.041	2 <sup>3</sup> / <sub>64</sub>	1.276	1 <sup>9</sup> / <sub>32</sub>
	16.332	16 <sup>2</sup> / <sub>64</sub>	265	15.826	15 <sup>5</sup> / <sub>64</sub>	1.971	1 <sup>3</sup> / <sub>32</sub>	1.232	1 <sup>5</sup> / <sub>64</sub>
	16.192	16 <sup>3</sup> / <sub>16</sub>	255	15.781	15 <sup>2</sup> / <sub>32</sub>	1.901	1 <sup>2</sup> / <sub>32</sub>	1.187	1 <sup>3</sup> / <sub>16</sub>
	16.050	16 <sup>3</sup> / <sub>64</sub>	245	15.738	15 <sup>4</sup> / <sub>64</sub>	1.830	1 <sup>5</sup> / <sub>64</sub>	1.144	1 <sup>9</sup> / <sub>64</sub>
	15.908	15 <sup>2</sup> / <sub>32</sub>	235	15.693	15 <sup>1</sup> / <sub>16</sub>	1.759	1 <sup>4</sup> / <sub>64</sub>	1.099	1 <sup>3</sup> / <sub>32</sub>
	15.764	15 <sup>4</sup> / <sub>64</sub>	225	15.650	15 <sup>2</sup> / <sub>32</sub>	1.687	1 <sup>1</sup> / <sub>16</sub>	1.056	1 <sup>1</sup> / <sub>16</sub>
	15.622	15 <sup>5</sup> / <sub>8</sub>	215	15.604	15 <sup>3</sup> / <sub>64</sub>	1.616	1 <sup>3</sup> / <sub>64</sub>	1.010	1 <sup>1</sup> / <sub>64</sub>
	15.478	15 <sup>3</sup> / <sub>64</sub>	205	15.559	15 <sup>9</sup> / <sub>16</sub>	1.544	1 <sup>3</sup> / <sub>64</sub>	0.965	3 <sup>1</sup> / <sub>32</sub>
	15.334	15 <sup>2</sup> / <sub>32</sub>	195	15.513	15 <sup>3</sup> / <sub>64</sub>	1.472	1 <sup>1</sup> / <sub>32</sub>	0.919	5 <sup>9</sup> / <sub>64</sub>
	15.188	15 <sup>3</sup> / <sub>16</sub>	185	15.469	15 <sup>1</sup> / <sub>32</sub>	1.399	1 <sup>1</sup> / <sub>32</sub>	0.875	7 <sup>8</sup> / <sub>64</sub>
	15.042	15 <sup>3</sup> / <sub>64</sub>	175	15.424	15 <sup>2</sup> / <sub>32</sub>	1.326	1 <sup>2</sup> / <sub>64</sub>	0.830	5 <sup>3</sup> / <sub>64</sub>
	14.896	14 <sup>3</sup> / <sub>64</sub>	165	15.377	15 <sup>3</sup> / <sub>8</sub>	1.253	1 <sup>1</sup> / <sub>4</sub>	0.783	2 <sup>5</sup> / <sub>32</sub>
	14.750	14 <sup>3</sup> / <sub>4</sub>	155	15.330	15 <sup>2</sup> / <sub>64</sub>	1.180	1 <sup>3</sup> / <sub>16</sub>	0.736	4 <sup>7</sup> / <sub>64</sub>
	14.602	14 <sup>3</sup> / <sub>64</sub>	145	15.284	15 <sup>9</sup> / <sub>32</sub>	1.106	1 <sup>3</sup> / <sub>64</sub>	0.690	1 <sup>1</sup> / <sub>16</sub>
	14.452	14 <sup>2</sup> / <sub>64</sub>	135	15.239	15 <sup>1</sup> / <sub>64</sub>	1.031	1 <sup>1</sup> / <sub>32</sub>	0.645	4 <sup>1</sup> / <sub>64</sub>
	14.304	14 <sup>1</sup> / <sub>64</sub>	125	15.191	15 <sup>3</sup> / <sub>16</sub>	0.957	9 <sup>1</sup> / <sub>64</sub>	0.597	1 <sup>9</sup> / <sub>32</sub>
	14.154	14 <sup>5</sup> / <sub>32</sub>	115	15.145	15 <sup>9</sup> / <sub>64</sub>	0.882	7 <sup>8</sup> / <sub>64</sub>	0.551	3 <sup>5</sup> / <sub>64</sub>
	*14.162	14 <sup>5</sup> / <sub>32</sub>	131	15.468	15 <sup>1</sup> / <sub>32</sub>	0.886	5 <sup>7</sup> / <sub>64</sub>	0.874	7 <sup>8</sup> / <sub>64</sub>

\*Special Section for Column Core.



# CARNEGIE BEAM SECTIONS

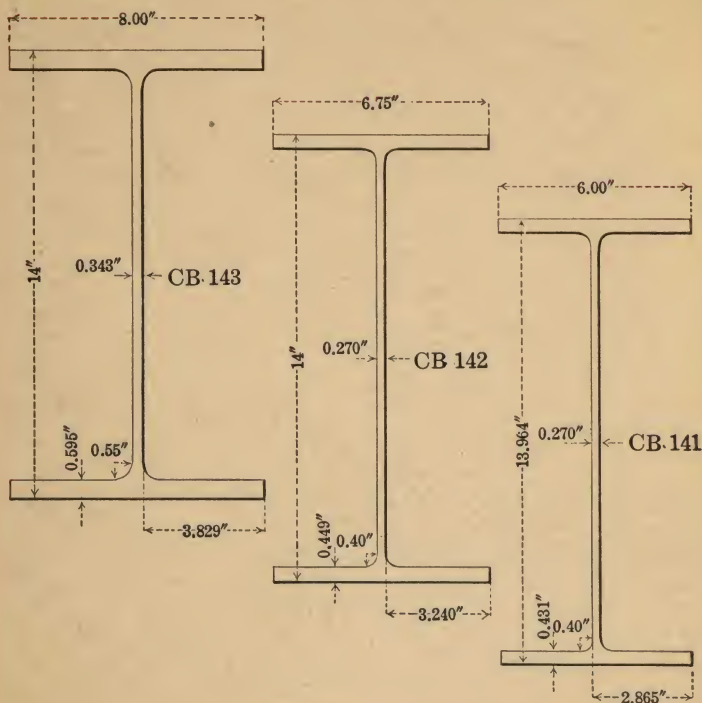
## CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 145	14.370	14 $\frac{3}{8}$	105	12.101	12 $\frac{3}{32}$	0.990	$\frac{63}{64}$	0.536	1 $\frac{7}{32}$
	14.186	14 $\frac{3}{16}$	95	12.050	12 $\frac{3}{64}$	0.898	$\frac{57}{64}$	0.485	$\frac{31}{64}$
	14.000	14	85	12.000	12	0.805	1 $\frac{3}{16}$	0.435	$\frac{7}{16}$
CB 144	14.382	14 $\frac{3}{8}$	75	10.086	10 $\frac{3}{32}$	0.786	$\frac{25}{32}$	0.468	1 $\frac{5}{32}$
	14.238	14 $\frac{15}{64}$	68	10.043	10 $\frac{3}{64}$	0.714	$\frac{23}{32}$	0.425	$\frac{27}{64}$
	14.094	14 $\frac{3}{32}$	61	10.000	10	0.642	$\frac{41}{64}$	0.382	$\frac{3}{8}$



## CARNEGIE BEAM SECTIONS—Continued

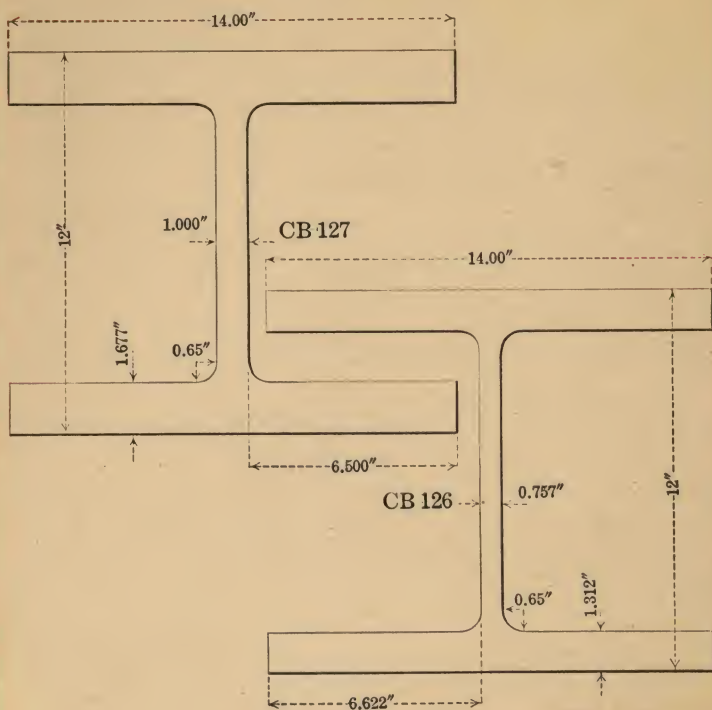


Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 143	14.242	14 <sup>1</sup> / <sub>16</sub>	58	8.070	8 <sup>1</sup> / <sub>16</sub>	0.716	2 <sup>3</sup> / <sub>32</sub>	0.413	13 <sup>5</sup> / <sub>32</sub>
	14.122	14 <sup>1</sup> / <sub>8</sub>	53	8.035	8 <sup>1</sup> / <sub>8</sub>	0.656	2 <sup>1</sup> / <sub>32</sub>	0.378	3 <sup>5</sup> / <sub>8</sub>
	14.000	14	48	8.000	8	0.595	1 <sup>9</sup> / <sub>32</sub>	0.343	11 <sup>1</sup> / <sub>32</sub>
CB 142	14.240	14 <sup>1</sup> / <sub>16</sub>	42	6.822	6 <sup>5</sup> / <sub>16</sub>	0.569	9 <sup>1</sup> / <sub>16</sub>	0.342	11 <sup>1</sup> / <sub>32</sub>
	14.160	14 <sup>5</sup> / <sub>32</sub>	39	6.798	6 <sup>5</sup> / <sub>16</sub>	0.529	1 <sup>7</sup> / <sub>32</sub>	0.318	5 <sup>1</sup> / <sub>8</sub>
	14.080	14 <sup>5</sup> / <sub>16</sub>	36	6.774	6 <sup>2</sup> / <sub>32</sub>	0.489	3 <sup>1</sup> / <sub>16</sub>	0.294	1 <sup>9</sup> / <sub>16</sub>
	14.000	14	33	6.750	6 <sup>3</sup> / <sub>4</sub>	0.449	2 <sup>9</sup> / <sub>64</sub>	0.270	1 <sup>7</sup> / <sub>16</sub>
	*14.000	14	38	6.855	6 <sup>5</sup> / <sub>16</sub>	0.449	2 <sup>9</sup> / <sub>64</sub>	0.375	3 <sup>5</sup> / <sub>8</sub>
CB 141	13.964	13 <sup>3</sup> / <sub>32</sub>	30	6.000	6	0.431	7 <sup>1</sup> / <sub>16</sub>	0.270	1 <sup>7</sup> / <sub>16</sub>

\*Special Section Web Thickness <sup>3</sup>/<sub>8</sub>".

# CARNEGIE BEAM SECTIONS

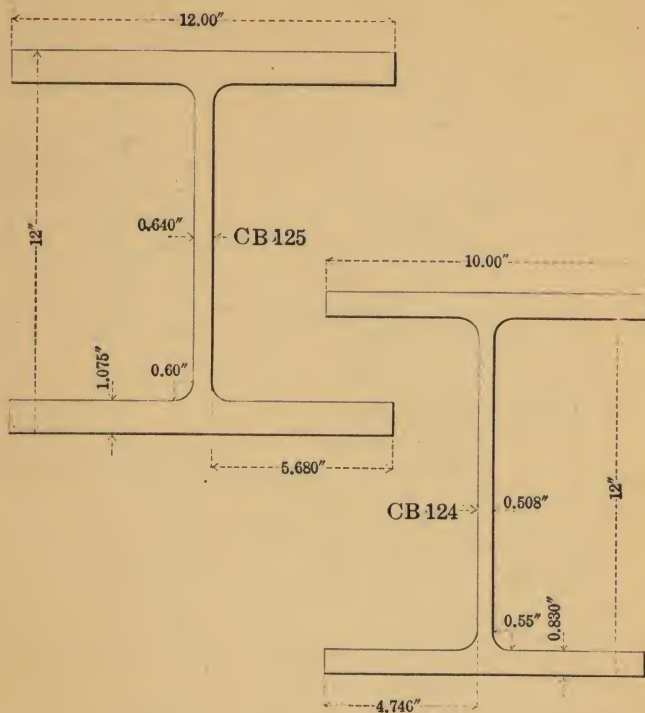
## CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 127	CONSTANT	12	230	14.980	14 <sup>9</sup> / <sub>64</sub>	1.677	1 <sup>43</sup> / <sub>64</sub>	1.980	1 <sup>63</sup> / <sub>64</sub>
			220	14.735	14 <sup>4</sup> / <sub>64</sub>			1.735	1 <sup>4</sup> / <sub>64</sub>
			210	14.490	14 <sup>3</sup> / <sub>64</sub>			1.490	1 <sup>3</sup> / <sub>64</sub>
			200	14.245	14 <sup>1</sup> / <sub>4</sub>			1.245	1 <sup>1</sup> / <sub>4</sub>
			190	14.000	14			1.000	1
CB 126	DEPTH	12	180	14.735	14 <sup>4</sup> / <sub>64</sub>	1.312	1 <sup>5</sup> / <sub>16</sub>	1.492	1 <sup>3</sup> / <sub>64</sub>
			170	14.490	14 <sup>3</sup> / <sub>64</sub>			1.247	1 <sup>1</sup> / <sub>4</sub>
			160	14.245	14 <sup>1</sup> / <sub>4</sub>			1.002	1
			150	14.000	14			0.757	<sup>3</sup> / <sub>4</sub>

CARNEGIE STEEL COMPANY

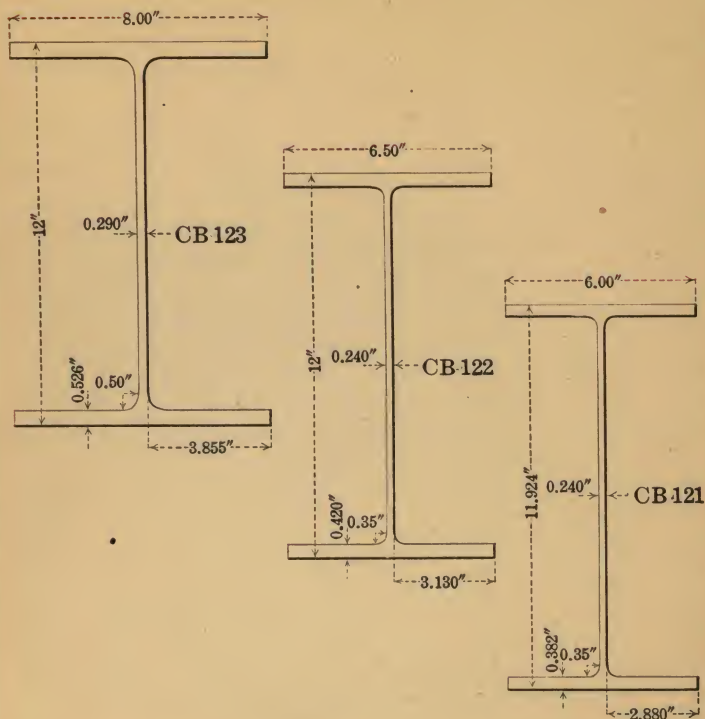
CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 125	12	12	140	12.736	12 <sup>4</sup> / <sub>16</sub>	1.075	5/64	1.376	1 <sup>3</sup> / <sub>16</sub>
			130	12.491	12 <sup>3</sup> / <sub>16</sub>			1.131	1 <sup>1</sup> / <sub>16</sub>
			120	12.245	12 <sup>1</sup> / <sub>4</sub>			0.885	8 <sup>7</sup> / <sub>16</sub>
			110	12.000	12			0.640	4 <sup>1</sup> / <sub>16</sub>
CB 124	12	12	100	10.613	10 <sup>3</sup> / <sub>16</sub>	0.830	53/64	1.121	1 <sup>1</sup> / <sub>16</sub>
			91	10.392	10 <sup>2</sup> / <sub>16</sub>			0.900	2 <sup>9</sup> / <sub>16</sub>
			83	10.196	10 <sup>1</sup> / <sub>16</sub>			0.704	4 <sup>5</sup> / <sub>16</sub>
			75	10.000	10			0.508	3 <sup>3</sup> / <sub>16</sub>

# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued



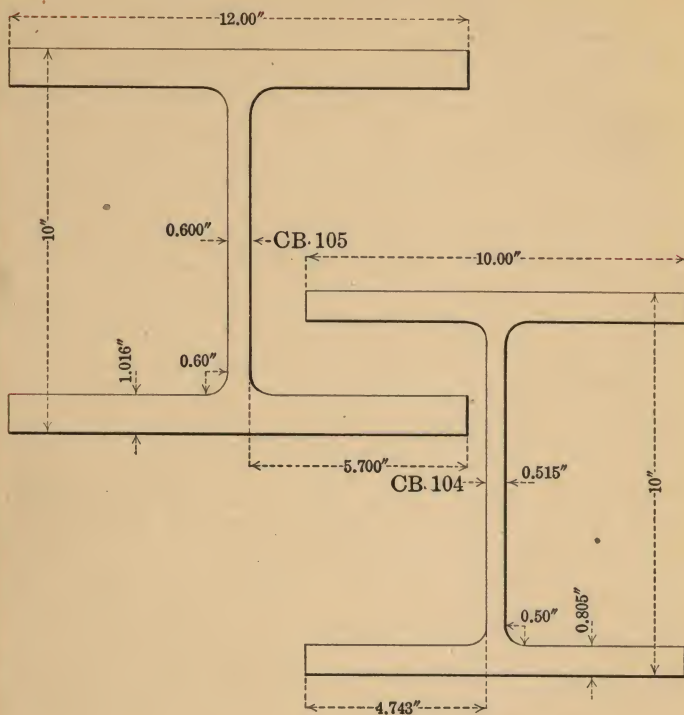
Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 123	12.258	12 <sup>1</sup> / <sub>16</sub>	50	8.071	8 <sup>5</sup> / <sub>16</sub>	0.655	2 <sup>1</sup> / <sub>32</sub>	0.361	2 <sup>3</sup> / <sub>16</sub>
	12.130	12 <sup>1</sup> / <sub>8</sub>	45	8.036	8 <sup>1</sup> / <sub>16</sub>	0.591	1 <sup>9</sup> / <sub>32</sub>	0.326	2 <sup>1</sup> / <sub>8</sub>
	12.000	12	40	8.000	8	0.526	1 <sup>7</sup> / <sub>32</sub>	0.290	1 <sup>9</sup> / <sub>16</sub>
CB 122	12.236	12 <sup>1</sup> / <sub>16</sub>	36	6.568	6 <sup>9</sup> / <sub>16</sub>	0.538	1 <sup>7</sup> / <sub>32</sub>	0.308	5 <sup>1</sup> / <sub>16</sub>
	12.118	12 <sup>1</sup> / <sub>8</sub>	32	6.534	6 <sup>1</sup> / <sub>16</sub>	0.479	3 <sup>1</sup> / <sub>16</sub>	0.274	9 <sup>1</sup> / <sub>16</sub>
	12.000	12	28	6.500	6 <sup>1</sup> / <sub>2</sub>	0.420	2 <sup>7</sup> / <sub>16</sub>	0.240	1 <sup>5</sup> / <sub>8</sub>
	*12.022	12 <sup>1</sup> / <sub>16</sub>	34	6.635	6 <sup>4</sup> / <sub>16</sub>	0.431	7 <sup>1</sup> / <sub>16</sub>	0.375	3 <sup>3</sup> / <sub>8</sub>
CB 121	11.924	11 <sup>5</sup> / <sub>16</sub>	25	6.000	6	0.382	3 <sup>1</sup> / <sub>8</sub>	0.240	1 <sup>5</sup> / <sub>16</sub>

\*Special Section Web Thickness <sup>3</sup>/<sub>8</sub>".



CARNEGIE STEEL COMPANY

CARNEGIE BEAM SECTIONS—Continued

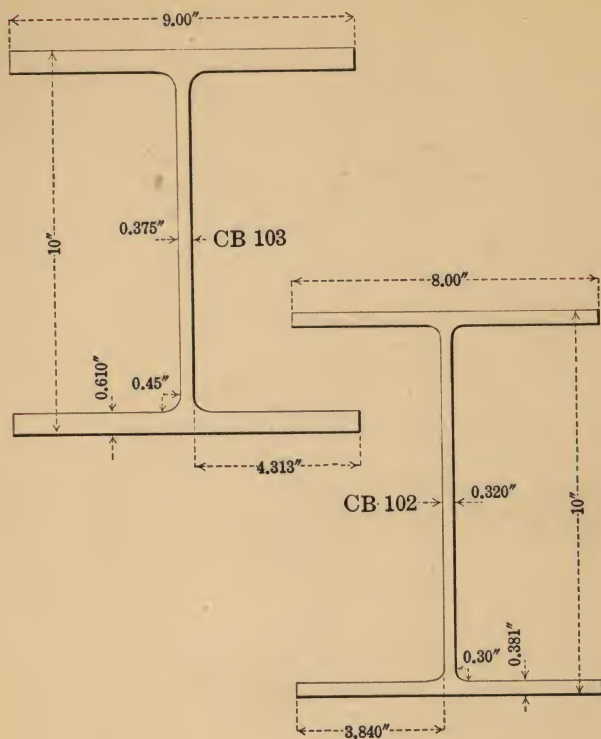


Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 105	CONSTANT 10	10	140	13.177	13 <sup>1</sup> / <sub>64</sub>	1.016	1 <sup>1</sup> / <sub>64</sub>	1.777	12 <sup>5</sup> / <sub>32</sub>
			132	12.941	12 <sup>1</sup> / <sub>16</sub>			1.541	13 <sup>5</sup> / <sub>64</sub>
			124	12.706	12 <sup>4</sup> / <sub>64</sub>			1.306	15 <sup>1</sup> / <sub>16</sub>
			116	12.471	12 <sup>1</sup> / <sub>32</sub>			1.071	15 <sup>5</sup> / <sub>64</sub>
			108	12.236	12 <sup>1</sup> / <sub>64</sub>			0.836	2 <sup>7</sup> / <sub>32</sub>
			100	12.000	12			0.600	19 <sup>5</sup> / <sub>32</sub>
CB 104	DEPTH 10	10	92	10.647	10 <sup>4</sup> / <sub>64</sub>	0.805	13/ <sub>16</sub>	1.162	15 <sup>5</sup> / <sub>32</sub>
			84	10.411	10 <sup>1</sup> / <sub>32</sub>			0.926	59 <sup>5</sup> / <sub>64</sub>
			77	10.206	10 <sup>1</sup> / <sub>64</sub>			0.721	23 <sup>5</sup> / <sub>32</sub>
			70	10.000	10			0.515	33 <sup>5</sup> / <sub>64</sub>



# CARNEGIE BEAM SECTIONS

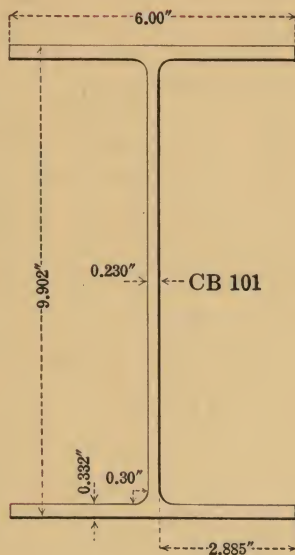
## CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 103	CONSTANT 10	10	63	9.412	9 $\frac{13}{32}$	0.610	$\frac{39}{64}$	0.787	2 $\frac{5}{16}$
			56	9.206	9 $\frac{13}{64}$			0.581	3 $\frac{7}{16}$
			49	9.000	9			0.375	$\frac{3}{8}$
CB 102	DEPTH 10	10	42	8.324	8 $\frac{21}{64}$	0.381	$\frac{3}{8}$	0.644	4 $\frac{1}{16}$
			36	8.147	8 $\frac{9}{64}$			0.467	1 $\frac{5}{16}$
			31	8.000	8			0.320	$\frac{5}{16}$

CARNEGIE STEEL COMPANY

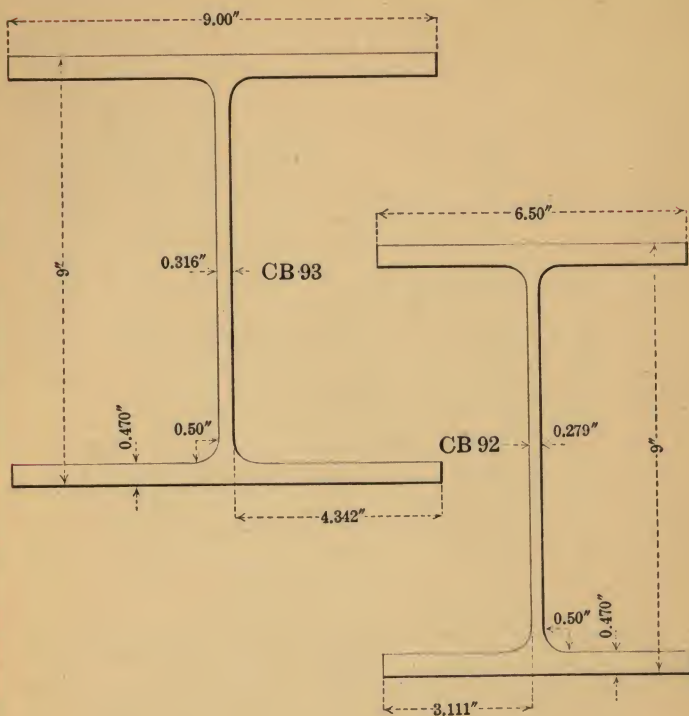
CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 101	10.228	$10\frac{15}{64}$	30	6.068	$6\frac{1}{16}$	0.495	$\frac{1}{2}$	0.298	$1\frac{9}{64}$
	10.098	$10\frac{3}{32}$	26	6.029	$6\frac{1}{32}$	0.430	$\frac{7}{16}$	0.259	$1\frac{7}{64}$
	10.000	10	23	6.000	6	0.381	$\frac{3}{8}$	0.230	$1\frac{5}{64}$
	9.902	$9\frac{29}{32}$	21	6.000	6	0.332	$2\frac{1}{64}$	0.230	$1\frac{5}{64}$

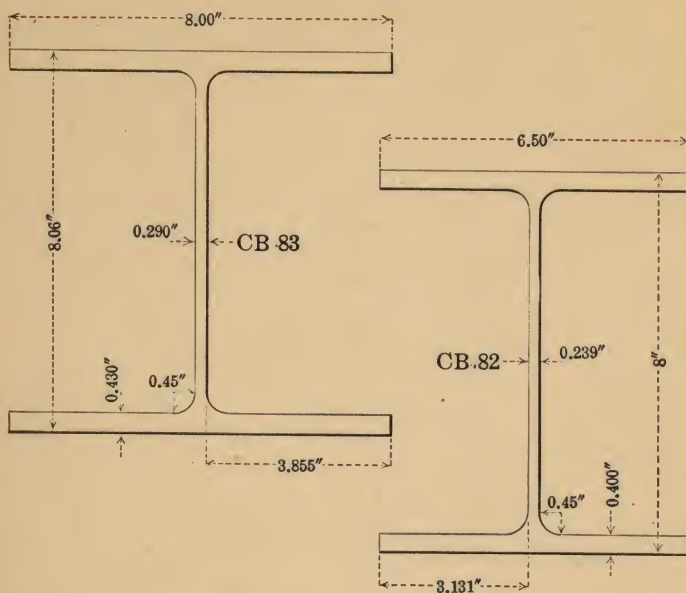
# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 93	9.242	$9\frac{15}{64}$	48	9.082	$9\frac{5}{64}$	0.591	$1\frac{9}{32}$	0.398	$2\frac{5}{64}$
	9.122	$9\frac{1}{8}$	43	9.041	$9\frac{3}{64}$	0.531	$1\frac{7}{32}$	0.357	$2\frac{3}{64}$
	9.000	9	38	9.000	9	0.470	$1\frac{15}{32}$	0.316	$5\frac{1}{6}$
CB 92	9.192	$9\frac{3}{16}$	35	6.556	$6\frac{9}{16}$	0.566	$9\frac{1}{6}$	0.335	$2\frac{1}{64}$
	9.096	$9\frac{3}{32}$	32	6.528	$6\frac{17}{32}$	0.518	$3\frac{3}{64}$	0.307	$5\frac{1}{6}$
	9.000	9	29	6.500	$6\frac{1}{2}$	0.470	$1\frac{15}{32}$	0.279	$9\frac{3}{32}$

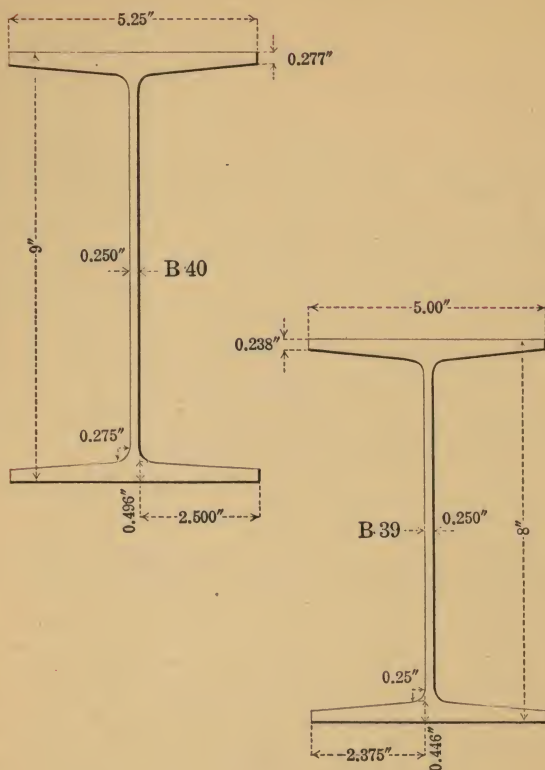
## CARNEGIE BEAM SECTIONS—Concluded



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
CB 83	9.606	$9\frac{39}{64}$	90	8.520	$8\frac{33}{64}$	1.203	$1\frac{13}{64}$	0.810	$1\frac{11}{16}$
	9.456	$9\frac{29}{64}$	84	8.469	$8\frac{15}{32}$	1.128	$1\frac{1}{8}$	0.759	$\frac{49}{64}$
	9.302	$9\frac{19}{64}$	78	8.418	$8\frac{27}{64}$	1.051	$1\frac{3}{64}$	0.708	$\frac{45}{64}$
	9.150	$9\frac{5}{32}$	72	8.366	$8\frac{23}{64}$	0.975	$\frac{31}{32}$	0.656	$\frac{21}{32}$
	8.994	9	66	8.314	$8\frac{5}{16}$	0.897	$\frac{57}{64}$	0.604	$\frac{39}{64}$
	8.838	$8\frac{27}{32}$	60	8.261	$8\frac{17}{64}$	0.819	$\frac{13}{16}$	0.551	$\frac{35}{64}$
	8.680	$8\frac{11}{16}$	54	8.208	$8\frac{13}{64}$	0.740	$\frac{47}{64}$	0.498	$\frac{1}{2}$
	8.520	$8\frac{33}{64}$	48	8.155	$8\frac{7}{32}$	0.660	$\frac{21}{32}$	0.445	$\frac{71}{160}$
	8.360	$8\frac{23}{64}$	42	8.100	$8\frac{3}{32}$	0.580	$\frac{37}{64}$	0.390	$\frac{25}{64}$
	8.198	$8\frac{17}{64}$	36	8.046	$8\frac{3}{64}$	0.499	$\frac{1}{2}$	0.336	$\frac{11}{32}$
CB 82	8.060	$8\frac{1}{16}$	31	8.000	8	0.430	$\frac{7}{16}$	0.290	$\frac{19}{64}$
	8.196	$8\frac{13}{64}$	30	6.559	$6\frac{9}{16}$	0.498	$\frac{1}{2}$	0.298	$\frac{19}{64}$
	8.098	$8\frac{7}{32}$	27	6.529	$6\frac{17}{32}$	0.449	$\frac{29}{64}$	0.268	$\frac{17}{64}$
	8.000	8	24	6.500	$6\frac{1}{2}$	0.400	$\frac{13}{32}$	0.239	$\frac{15}{64}$

# CARNEGIE BEAM SECTIONS

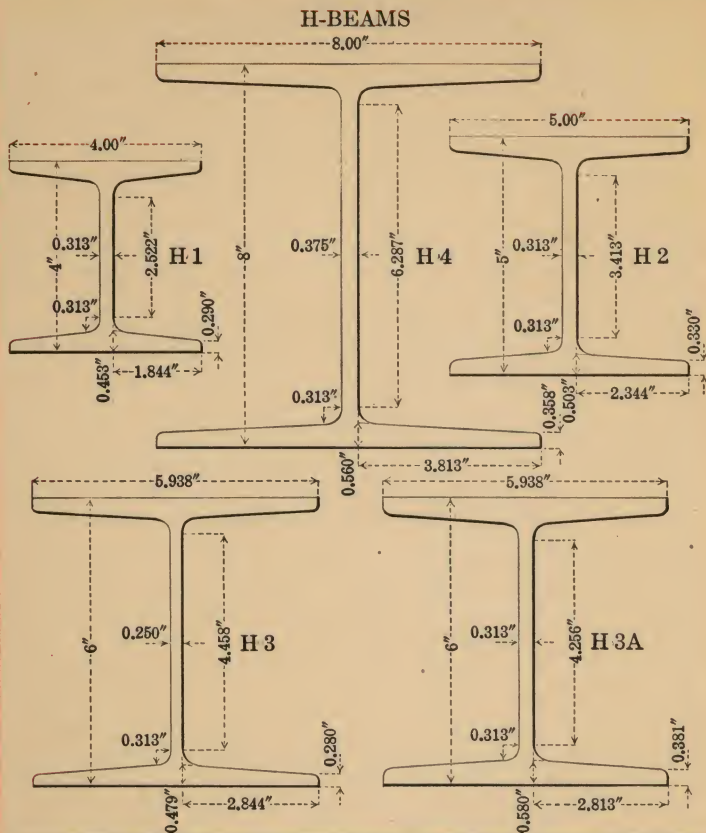
## STANDARD MILL SECTIONS



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Mean Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
B 40	9	9	25	5.380	5 $\frac{3}{8}$	0.3865	$\frac{25}{64}$	0.380	$\frac{3}{8}$
			21	5.250	5 $\frac{1}{4}$			0.250	$\frac{1}{4}$
B 39	8	8	21	5.110	5 $\frac{7}{16}$	0.342	$\frac{11}{32}$	0.360	2 $\frac{3}{16}$
			18	5.000	5			0.250	$\frac{1}{4}$



# CARNEGIE STEEL COMPANY



Section Index	Depth of Section, Inches		Weight per Foot, Pounds	Flange Width, Inches		Mean Flange Thickness, Inches		Web Thickness, Inches	
	Decimal	Fraction		Decimal	Fraction	Decimal	Fraction	Decimal	Fraction
H 4	8	8	37.7	8.125	8 1/8	0.459	29/64	0.500	1/2
			34.3	8.000	8			0.375	3/8
			32.6	7.938	7 15/16			0.313	5/16
H 3A	6	6	27.5	6.063	6 1/16	0.481	31/64	0.438	7/16
			25.0	5.938	5 15/16			0.313	5/16
H 3	6	6	22.5	6.063	6 1/16	0.379	3/8	0.375	3/8
			20.0	5.938	5 15/16			0.250	1/4
H 2	5	5	18.9	5.000	5	0.417	27/64	0.313	5/16
H 1	4	4	13.8	4.000	4	0.372	3/8	0.313	5/16

Full information as to uses of H-Beams is given in pamphlet entitled "Steel Mine Timbers."

**CARNEGIE  
BEAM SECTIONS**

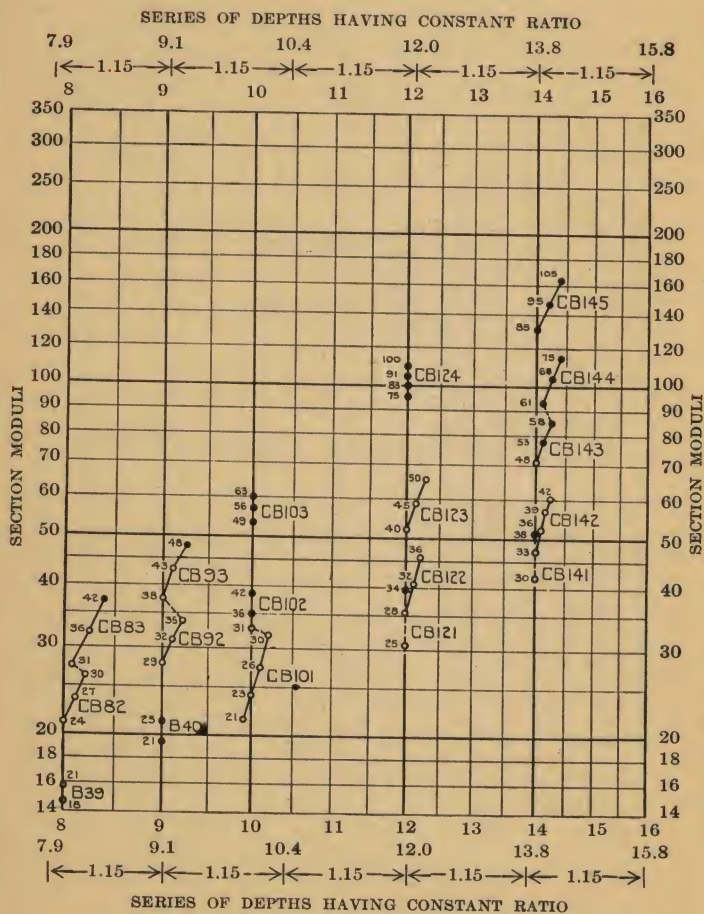
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**ELEMENTS AND PROPERTIES**

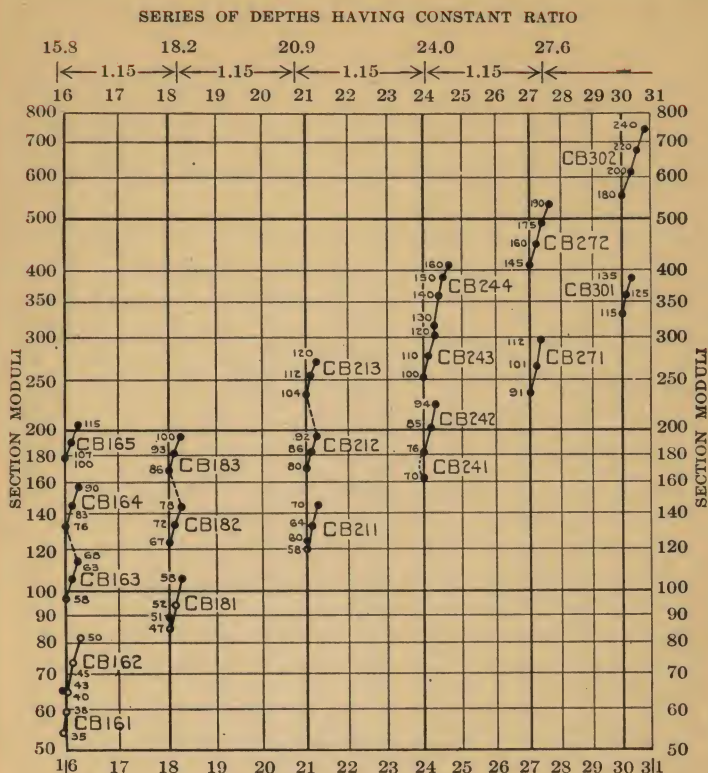
# CARNEGIE STEEL COMPANY

## CARNEGIE BEAM SECTIONS

### RANGE OF SECTIONS SELECTED FOR USE AS BEAMS



# CARNEGIE BEAM SECTIONS



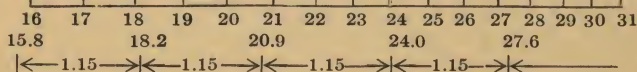
## EXPLANATORY NOTES

Ranges of Sections shown in diagram have been charted logarithmically: the Vertical Scales indicating the Section Moduli and the Horizontal Scales the Depths in Inches.

Locate horizontal line corresponding to the required Section Modulus and from this line select a suitable section of the required depth.

Each weight of section is shown by a circle, a solid circle indicating a section with metal not less than  $\frac{3}{8}$  inch thick.

Groups of Sections having the same internal depth and width are connected with continuous lines; those having only the same internal depth are connected with broken lines.



SERIES OF DEPTHS HAVING CONSTANT RATIO



## CARNEGIE STEEL COMPANY

## CARNEGIE BEAM SECTIONS

BEAM SECTIONS  
COMPARATIVE TABLE OF SECTION MODULI

Section Modulus	30 In.		27 In.		24 In.		21 In.		Section Modulus	24 In.		21 In.		18 In.		16 In.		14 In.	
	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.		Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
738	240								236			104							
676	220	CB 3 0 2							225	94		CB 2 1 3							
615	200								205						115				
553	180								203	85	CB 2 4 2								
535			190						196		92		100						
492			175	CB 2 7 2					191						107	CB 1 6 5			
450			160						184		86	CB 2 1 2		CB 1 8 3					
411					160				182	76			93						
408			145						178					100					
390	135	CB 3 0 1							171		80								
385					150	CB 2 4 4			168				86						
361	125								163	70							105		
359					140				157						90				
334					130				147		CB 2 4 1						95	CB 1 4 5	
332	115								145		70	CB 2 1 1	78		83	CB 1 6 4			
302			CB 2 7 1		120				133		64		72	CB 1 8 2	76				
293			112						132								85		
277					110				124		60		67						
272					CB 2 4 3		120		120		58								
265		101							115										
254							112	CB 2 1 3	114						68	CB 1 6 3		75	CB 1 4 4
252					100														
238			91																



# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued

### BEAM SECTIONS

#### COMPARATIVE TABLE OF SECTION MODULI

Section Modulus	18 In.		16 In.		14 In.		12 In.		10 In.		Section Modulus	14 In.		12 In.		10 In.		9 In.		8 In.	
	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.		Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
110							100				47.8		CB 1 4 2					48			
105	58		63				91				47.6	33									
104					68						45.8			36							
100			CB 1 6 3		CB 1 4 4		83		CB 1 2 4		42.9							43			
97.1		CB 1 8	58								41.8	30	CB 1 4 1						CB 9 3		
95.1		1					75				40.7			32							
94.4	52										39.6			34	CB 1 2 2						
93.1					61						38.1				42						
89.9	51										37.9							38			
85.6					58						37.4								42		
85.4	47										35.6			28			CB 1 0 2				
81.9			50		CB 1 6 2		CB 1 4 3				35.1					36					
78.2					53						33.8							35			
73.8			45								32.7					31					
70.9					48						32.0								CB 9 2	36	CB 8 3
65.7			43								31.9					30					
65.6			40								30.9							32			
65.4							50	CB 1 2 3			30.7			25							
60.6					42						28.0							29			
60.1									63		27.6						26	CB 1 0 1			
59.3			38	CB 1 6 1							27.5									31	
58.8							45				26.3						CB 1 2 1			30	
56.6									56	CB 1 0 3	24.4					23					
56.3					39	CB 1 4 2					23.7									27	CB 8 2
54.7			35								21.7					21					
53.2									49		21.2							25			
52.3							40				21.1									24	
51.9					36						19.5							21	B 4 0		
51.1					38						15.9									21	B 3 9
											14.7									18	

# CARNEGIE STEEL COMPANY

## CARNEGIE BEAM SECTIONS—Continued

### COLUMN SECTIONS

#### COMPARATIVE TABLE OF RADII OF GYRATION AND AREAS

Area	14 In.			12 In.			10 In.			Area
	Weight	r 2-2	No.	Weight	r 2-2	No.	Weight	r 2-2	No.	
89.70	305	4.14	CB 1 4 6							89.70
86.76	295	4.13								86.76
83.82	285	4.12								83.82
80.87	275	4.10								80.87
77.93	265	4.09								77.93
74.99	255	4.08								74.99
72.06	245	4.06								72.06
69.11	235	4.05								69.11
67.64				230	3.74					67.64
66.17	225	4.04								66.17
64.70			CB 1 2 7	220	3.73					64.70
63.23	215	4.03								63.23
61.76				210	3.72					61.76
60.28	205	4.01								60.28
58.82				200	3.71					58.82
57.34	195	4.00								57.34
55.88				190	3.71					55.88
54.41	185	3.98								54.41
52.94				180	3.64					52.94
51.47	175	3.97								51.47
50.00			CB 1 2 6	170	3.65					50.00
48.52	165	3.96								48.52
47.06				160	3.67					47.06
45.58	155	3.94								45.58
44.12				150	3.69					44.12
42.64	145	3.93								42.64
41.17				140	3.01		140	3.08		41.17
39.70	135	3.92					132	3.09		39.70
38.81										38.81
38.52	131	3.77								38.52
38.24			CB 1 2 5	130	3.03					38.24
36.75	125	3.90								36.75
36.46							124	3.09	CB 1 0 5	36.46
35.28				120	3.06					35.28
34.11							116	3.11		34.11
33.82	115	3.89								33.82
32.34				110	3.10					32.34
31.76							108	3.13		31.76
30.88	105	3.08								30.88
29.40			CB 1 2 4	100	2.39		100	3.16		29.40
27.93	95	3.06								27.93
27.06							92	2.50	CB 1 0 4	27.06
26.76				91	2.41					26.76

CARNEGIE BEAM SECTIONS

CARNEGIE BEAM SECTIONS—Continued

COLUMN SECTIONS

COMPARATIVE TABLE OF RADII OF GYRATION AND AREAS

Area	14 In.			12 In.			10 In.			9 In.			8 In.			Area
	Wt.	r 2-2	No.	Wt.	r 2-2	No.	Wt.	r 2-2	No.	Wt.	r 2-2	No.	Wt.	r 2-2	No.	
26.47													90	2.17		26.47
24.99	85	3.05	CB 1													24.99
24.71			4										84	2.15		24.71
24.70			5				84	2.48	CB 1							24.70
24.41				83	2.45	CB 1			2							24.41
22.93						4							78	2.14		22.93
22.65							77	2.51	4							22.65
22.05	75	2.47	CB 1	75	2.51											22.05
21.17			4										72	2.12		21.17
20.59							70	2.55								20.59
19.99	68	2.46														19.99
19.40													66	2.11		19.40
18.53							63	2.14								18.53
17.94	61	2.44														17.94
17.63													60	2.09	CB 8	17.63
17.05	58	1.92							CB 1						3	17.05
16.47							56	2.20	0							16.47
15.87			CB 1						3				54	2.07		15.87
15.59	53	1.91	4													15.59
14.69			3	50	1.98	CB 1										14.69
14.41						3	49	2.27								14.41
14.12	48	1.90														14.12
14.11										48	2.29					14.11
14.10				45	1.97								48	2.06		14.10
13.23																13.23
12.65										43	2.28	CB 9				12.65
12.35	42	1.56					42	1.73				3				12.35
12.34													42	2.04		12.34
11.76			CB 1	40	1.95											11.76
11.47	39	1.56	4													11.47
11.17			2							38	2.26					11.17
10.59				36	1.55				CB 1							10.59
10.58	36	1.55					36	1.80	0				36	2.02		10.58
10.29									2							10.29
9.71	33	1.54														9.71
9.40				32	1.54	CB 1										9.40
9.11						2	31	1.89								9.11
9.10																9.10
8.81													31	2.01		8.81
8.53													30	1.63		8.53
8.22				28	1.53					29	1.59				CB 8	8.22
7.93															2	7.93
7.06													27	1.62		7.06
													24	1.61		



## CARNEGIE BEAM SECTIONS—Continued



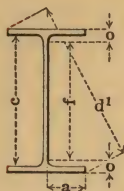
ELEMENTS  
OF  
SECTIONS  
DECIMAL



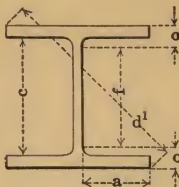
Section Index and Nominal Depth	Weight per Foot	Area of Section	Depth of Section	Flange Width	Web Thick- ness	Axis 1-1			Axis 2-2		
						I	S	r	I	S	r
						In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
CB 302 30"	240	70.58	30.781	14.218	.888	11356.0	737.9	12.69	766.9	107.9	3.30
	220	64.70	30.522	14.146	.816	10320.4	676.3	12.63	693.9	98.1	3.28
	200	58.82	30.263	14.073	.743	9305.7	615.0	12.58	622.7	88.5	3.25
	180	52.93	30.000	14.000	.670	8301.4	553.4	12.52	552.7	79.0	3.23
CB 301 30"	135	39.70	30.298	10.591	.621	5907.3	389.9	12.20	204.8	38.7	2.27
	125	36.75	30.148	10.546	.576	5441.7	361.0	12.17	187.4	35.5	2.26
	115	33.81	30.000	10.500	.530	4985.3	332.4	12.14	170.6	32.5	2.25
CB 272 27"	190	55.87	27.598	14.176	.756	7376.9	534.6	11.49	610.7	86.2	3.31
	175	51.47	27.400	14.118	.698	6746.8	492.5	11.45	556.6	78.9	3.29
	160	47.04	27.200	14.059	.639	6121.8	450.1	11.41	503.2	71.6	3.27
	145	42.64	27.000	14.000	.580	5508.7	408.1	11.37	451.0	64.4	3.25
CB 271 27"	112	32.94	27.340	9.855	.566	4007.6	293.2	11.03	148.0	30.0	2.12
	101	29.70	27.166	9.799	.510	3595.7	264.7	11.00	131.7	26.9	2.11
	91	26.76	27.000	9.750	.461	3217.0	238.3	10.97	116.9	24.0	2.09
CB 244 24"	160	47.06	24.664	14.123	.670	5065.7	410.8	10.38	526.0	74.5	3.34
	150	44.10	24.526	14.082	.629	4720.5	384.9	10.35	489.3	69.5	3.33
	140	41.16	24.388	14.041	.588	4380.4	359.2	10.32	453.1	64.5	3.32
	130	38.23	24.250	14.000	.547	4045.1	333.6	10.29	417.5	59.6	3.31
CB 243 24"	120	35.29	24.310	12.089	.539	3669.7	301.9	10.20	277.8	46.0	2.81
	110	32.34	24.156	12.044	.494	3343.5	276.8	10.17	252.2	41.9	2.79
	100	29.41	24.000	12.000	.450	3020.5	251.7	10.14	226.9	37.8	2.78
CB 242 24"	94	27.64	24.308	9.844	.499	2734.9	225.0	9.95	130.2	26.4	2.17
	85	24.99	24.154	9.797	.452	2457.2	203.5	9.92	116.2	23.7	2.16
	76	22.35	24.000	9.750	.405	2184.4	182.0	9.89	102.6	21.0	2.14
CB 241 24"	70	20.58	24.000	8.500	.400	1953.8	162.8	9.74	68.0	16.0	1.82
CB 213 21"	120	35.28	21.248	13.070	.535	2890.9	272.1	9.05	349.7	53.5	3.15
	112	32.93	21.126	13.034	.499	2683.7	254.1	9.03	324.3	49.8	3.14
	104	30.57	21.000	13.000	.465	2475.3	235.7	9.00	298.7	45.9	3.13
CB 212 21"	92	27.05	21.240	9.064	.502	2086.4	196.5	8.78	116.3	25.7	2.07
	86	25.28	21.120	9.032	.470	1939.3	183.6	8.76	107.7	23.8	2.06
	80	23.53	21.000	9.000	.438	1794.4	170.9	8.73	99.2	22.0	2.05
CB 211 21"	70	20.59	21.248	8.073	.433	1542.9	145.2	8.66	64.3	15.9	1.77
	64	18.82	21.126	8.036	.396	1403.3	132.9	8.64	58.2	14.5	1.76
	58	17.05	21.000	8.000	.360	1263.2	120.3	8.61	52.0	13.0	1.75
	60	17.64	21.034	8.015	.375	1304.9	124.1	8.60	53.7	13.4	1.75

# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued



DIMENSIONS  
OF  
SECTIONS  
FRACTIONAL

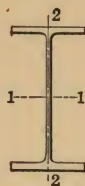


Weight per Foot	Depth of Section	Flange		Web		Distance					Section Index and Nominal Depth
		Width	Thick- ness	Thick- ness	Thick- ness +	a	c	f	o	d <sup>1</sup>	
Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
240	30 $\frac{3}{4}$	14 $\frac{1}{16}$	1 $\frac{1}{16}$	$\frac{7}{8}$	$\frac{1}{2}$	6 $\frac{1}{16}$	27 $\frac{9}{16}$	25 $\frac{1}{2}$	2 $\frac{5}{8}$	33 $\frac{1}{16}$	CB 302 30"
220	30 $\frac{1}{2}$	14 $\frac{1}{8}$	1 $\frac{1}{8}$	$\frac{7}{8}$	$\frac{1}{2}$	6 $\frac{1}{16}$	27 $\frac{9}{16}$	25 $\frac{1}{2}$	2 $\frac{1}{2}$	33 $\frac{3}{8}$	
200	30 $\frac{1}{4}$	14 $\frac{1}{4}$	1 $\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{8}$	6 $\frac{1}{16}$	27 $\frac{9}{16}$	25 $\frac{1}{2}$	2 $\frac{3}{8}$	33 $\frac{1}{2}$	
180	30	14	1 $\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	6 $\frac{1}{16}$	27 $\frac{9}{16}$	25 $\frac{1}{2}$	2 $\frac{1}{4}$	33 $\frac{3}{4}$	
135	30 $\frac{5}{8}$	10 $\frac{5}{8}$	1	$\frac{5}{8}$	$\frac{5}{16}$	5	28 $\frac{3}{16}$	26 $\frac{3}{4}$	1 $\frac{3}{4}$	32 $\frac{1}{2}$	CB 301 30"
125	30 $\frac{1}{2}$	10 $\frac{1}{2}$	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	5	28 $\frac{3}{16}$	26 $\frac{3}{4}$	1 $\frac{1}{4}$	31 $\frac{1}{16}$	
115	30	10 $\frac{1}{2}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{5}{16}$	5	28 $\frac{3}{16}$	26 $\frac{3}{4}$	1 $\frac{5}{8}$	31 $\frac{1}{4}$	
190	27 $\frac{5}{8}$	14 $\frac{1}{16}$	1 $\frac{1}{4}$	$\frac{3}{4}$	$\frac{7}{16}$	6 $\frac{3}{4}$	25	23 $\frac{1}{4}$	2 $\frac{1}{2}$	31 $\frac{1}{16}$	CB 272 27"
175	27 $\frac{3}{8}$	14 $\frac{1}{8}$	1 $\frac{1}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	6 $\frac{3}{4}$	25	23 $\frac{1}{4}$	2 $\frac{1}{8}$	30 $\frac{1}{16}$	
160	27 $\frac{1}{2}$	14 $\frac{1}{4}$	1 $\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{8}$	6 $\frac{3}{4}$	25	23 $\frac{1}{4}$	2	30 $\frac{1}{2}$	
145	27	14	1	$\frac{9}{16}$	$\frac{5}{16}$	6 $\frac{3}{4}$	25	23 $\frac{1}{4}$	1 $\frac{7}{8}$	30 $\frac{3}{4}$	
112	27 $\frac{3}{8}$	9 $\frac{7}{8}$	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	4 $\frac{1}{16}$	25 $\frac{7}{16}$	24 $\frac{1}{8}$	1 $\frac{5}{8}$	29 $\frac{1}{16}$	CB 271 27"
101	27 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{13}{16}$	$\frac{1}{2}$	$\frac{5}{16}$	4 $\frac{1}{16}$	25 $\frac{7}{16}$	24 $\frac{1}{8}$	1 $\frac{1}{2}$	28 $\frac{7}{8}$	
91	27	9 $\frac{3}{4}$	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	4 $\frac{1}{16}$	25 $\frac{7}{16}$	24 $\frac{1}{8}$	1 $\frac{1}{16}$	28 $\frac{1}{16}$	
160	24 $\frac{1}{16}$	14 $\frac{1}{8}$	1 $\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	6 $\frac{3}{4}$	22 $\frac{3}{8}$	20 $\frac{3}{4}$	1 $\frac{15}{16}$	28 $\frac{7}{16}$	CB 244 24"
150	24 $\frac{1}{8}$	14 $\frac{1}{4}$	1 $\frac{1}{4}$	$\frac{5}{8}$	$\frac{3}{8}$	6 $\frac{3}{4}$	22 $\frac{3}{8}$	20 $\frac{3}{4}$	1 $\frac{7}{8}$	28 $\frac{1}{2}$	
140	24 $\frac{1}{4}$	14 $\frac{1}{2}$	1	$\frac{9}{16}$	$\frac{5}{16}$	6 $\frac{3}{4}$	22 $\frac{3}{8}$	20 $\frac{3}{4}$	1 $\frac{13}{16}$	28 $\frac{3}{8}$	
130	24 $\frac{1}{4}$	14	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	6 $\frac{3}{4}$	22 $\frac{3}{8}$	20 $\frac{3}{4}$	1 $\frac{3}{4}$	28	
120	24 $\frac{5}{16}$	12 $\frac{1}{16}$	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	5 $\frac{13}{16}$	22 $\frac{3}{8}$	20 $\frac{3}{4}$	1 $\frac{3}{4}$	27 $\frac{3}{16}$	CB 243 24"
110	24 $\frac{1}{2}$	12 $\frac{1}{8}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{13}{16}$	22 $\frac{3}{8}$	20 $\frac{3}{4}$	1 $\frac{11}{16}$	27	
100	24	12	$\frac{13}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	5 $\frac{13}{16}$	22 $\frac{3}{8}$	20 $\frac{3}{4}$	1 $\frac{5}{8}$	26 $\frac{7}{8}$	
94	24 $\frac{5}{16}$	9 $\frac{7}{8}$	$\frac{13}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	4 $\frac{1}{16}$	22 $\frac{5}{8}$	21 $\frac{3}{8}$	1 $\frac{7}{16}$	26 $\frac{1}{4}$	CB 242 24"
85	24 $\frac{1}{8}$	9 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	4 $\frac{1}{16}$	22 $\frac{5}{8}$	21 $\frac{3}{8}$	1 $\frac{3}{8}$	26 $\frac{1}{8}$	
76	24	9 $\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{4}$	4 $\frac{1}{16}$	22 $\frac{5}{8}$	21 $\frac{3}{8}$	1 $\frac{1}{16}$	25 $\frac{15}{16}$	
70	24	8 $\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{4}$	4 $\frac{1}{16}$	22 $\frac{5}{8}$	21 $\frac{3}{8}$	1 $\frac{5}{16}$	25 $\frac{1}{2}$	CB 241 24"
120	21 $\frac{1}{4}$	13 $\frac{1}{16}$	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	6 $\frac{5}{16}$	19 $\frac{5}{16}$	17 $\frac{7}{8}$	1 $\frac{11}{16}$	24 $\frac{15}{16}$	CB 213 21"
112	21 $\frac{1}{2}$	13 $\frac{1}{8}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	6 $\frac{5}{16}$	19 $\frac{5}{16}$	17 $\frac{7}{8}$	1 $\frac{5}{8}$	24 $\frac{3}{4}$	
104	21	13	$\frac{13}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	6 $\frac{5}{16}$	19 $\frac{5}{16}$	17 $\frac{7}{8}$	1 $\frac{9}{16}$	24 $\frac{1}{16}$	
92	21 $\frac{1}{4}$	9 $\frac{1}{16}$	$\frac{15}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	4 $\frac{5}{16}$	19 $\frac{5}{16}$	17 $\frac{7}{8}$	1 $\frac{11}{16}$	23 $\frac{1}{8}$	CB 212 21"
86	21 $\frac{1}{8}$	9 $\frac{1}{8}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	4 $\frac{5}{16}$	19 $\frac{5}{16}$	17 $\frac{7}{8}$	1 $\frac{5}{8}$	23	
80	21	9	$\frac{13}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	4 $\frac{5}{16}$	19 $\frac{5}{16}$	17 $\frac{7}{8}$	1 $\frac{9}{16}$	22 $\frac{7}{8}$	
70	21 $\frac{1}{4}$	8 $\frac{1}{16}$	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	3 $\frac{13}{16}$	19 $\frac{3}{4}$	18 $\frac{5}{8}$	1 $\frac{5}{16}$	22 $\frac{3}{4}$	CB 211 21"
64	21 $\frac{1}{8}$	8 $\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{4}$	3 $\frac{13}{16}$	19 $\frac{3}{4}$	18 $\frac{5}{8}$	1 $\frac{1}{4}$	22 $\frac{1}{2}$	
58	21	8	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{13}{16}$	19 $\frac{3}{4}$	18 $\frac{5}{8}$	1 $\frac{1}{8}$	22 $\frac{1}{2}$	
60	21	8	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{13}{16}$	19 $\frac{3}{4}$	18 $\frac{5}{8}$	1 $\frac{1}{8}$	22 $\frac{1}{2}$	



CARNEGIE STEEL COMPANY

CARNEGIE BEAM SECTIONS—Continued



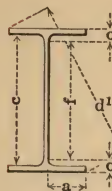
ELEMENTS  
OF  
SECTIONS  
DECIMAL



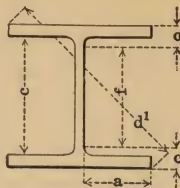
Section Index and Nominal Depth	Weight per Foot	Area of Section	Depth of Section	Flange Width	Web Thickness	Axis 1-1			Axis 2-2		
						I	S	r	I	S	r
						In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
CB 183 18"	100	29.40	18.238	12.069	.498	1783.4	195.6	7.79	253.4	42.0	2.94
	93	27.35	18.120	12.034	.463	1648.4	181.9	7.76	234.0	38.9	2.93
	86	25.29	18.000	12.000	.429	1514.1	168.2	7.74	214.7	35.8	2.91
CB 182 18"	78	22.94	18.242	8.565	.471	1318.8	144.6	7.58	90.9	21.2	1.99
	72	21.17	18.110	8.530	.436	1208.1	133.4	7.55	82.9	19.4	1.98
	67	19.69	18.000	8.500	.406	1117.1	124.1	7.53	76.4	18.0	1.97
CB 181 18"	58	17.05	18.252	7.573	.393	960.8	105.3	7.51	49.0	13.0	1.70
	52	15.30	18.114	7.534	.354	855.1	94.4	7.48	43.3	11.5	1.68
	47	13.82	18.000	7.500	.320	768.6	85.4	7.46	38.7	10.3	1.67
	51	15.00	18.024	7.555	.375	810.0	89.9	7.35	40.5	10.7	1.64
CB 165 16"	115	33.82	16.236	14.068	.532	1665.6	205.2	7.02	426.2	60.6	3.55
	107	31.46	16.110	14.032	.496	1537.2	190.8	6.99	393.9	56.1	3.54
	100	29.41	16.000	14.000	.464	1426.8	178.3	6.97	366.0	52.3	3.53
CB 164 16"	90	26.46	16.240	12.076	.495	1275.5	157.1	6.94	230.0	38.1	2.95
	83	24.41	16.120	12.039	.458	1167.7	144.9	6.92	210.4	35.0	2.94
	76	22.34	16.000	12.000	.419	1061.3	132.7	6.89	191.1	31.8	2.92
CB 163 16"	68	20.00	16.226	8.563	.438	923.7	113.9	6.80	81.3	19.0	2.02
	63	18.52	16.114	8.531	.406	849.9	105.5	6.77	74.6	17.5	2.01
	58	17.06	16.000	8.500	.375	776.6	97.1	6.75	68.0	16.0	2.00
CB 162 16"	50	14.70	16.254	7.072	.362	666.0	81.9	6.73	38.2	10.8	1.61
	45	13.23	16.128	7.036	.326	595.0	73.8	6.71	34.0	9.7	1.60
	40	11.75	16.000	7.000	.290	524.6	65.6	6.68	29.8	8.5	1.59
	43	12.65	15.934	7.085	.375	523.8	65.7	6.44	28.9	8.2	1.51
CB 161 16"	38	11.17	16.012	6.024	.314	475.1	59.3	6.52	19.2	6.4	1.31
	35	10.29	15.930	6.000	.290	435.5	54.7	6.50	17.5	5.8	1.30

# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued



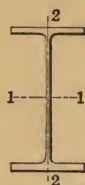
DIMENSIONS  
OF  
SECTIONS  
FRACTIONAL



Weight per Foot	Depth of Section	Flange		Web		Distance					Section Index and Nominal Depth
		Width	Thick- ness	Thick- ness	$\frac{1}{2}$ Thick- ness +	a	c	f	o	d <sup>1</sup>	
Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
100	18 $\frac{1}{4}$	12 $\frac{1}{16}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{13}{16}$	16 $\frac{1}{2}$	15 $\frac{1}{8}$	1 $\frac{1}{16}$	21 $\frac{7}{8}$	CB 183 18"
93	18 $\frac{3}{8}$	12 $\frac{1}{16}$	$\frac{13}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	5 $\frac{13}{16}$	16 $\frac{1}{2}$	15 $\frac{1}{8}$	1 $\frac{1}{2}$	21 $\frac{3}{4}$	
86	18	12	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{1}{4}$	5 $\frac{13}{16}$	16 $\frac{1}{2}$	15 $\frac{1}{8}$	1 $\frac{1}{16}$	21 $\frac{3}{8}$	
78	18 $\frac{1}{4}$	8 $\frac{9}{16}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	4 $\frac{1}{16}$	16 $\frac{1}{2}$	15 $\frac{1}{8}$	1 $\frac{1}{16}$	20 $\frac{1}{8}$	CB 182 18"
72	18 $\frac{3}{8}$	8 $\frac{1}{2}$	$\frac{13}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	4 $\frac{1}{16}$	16 $\frac{1}{2}$	15 $\frac{1}{8}$	1 $\frac{1}{2}$	20	
67	18	8 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	4 $\frac{1}{16}$	16 $\frac{1}{2}$	15 $\frac{1}{8}$	1 $\frac{1}{16}$	19 $\frac{15}{16}$	
58	18 $\frac{1}{4}$	7 $\frac{9}{16}$	1 $\frac{1}{16}$	$\frac{3}{8}$	$\frac{1}{4}$	3 $\frac{5}{8}$	16 $\frac{3}{8}$	15 $\frac{3}{8}$	1 $\frac{3}{16}$	19 $\frac{3}{4}$	CB 181 18"
52	18 $\frac{3}{8}$	7 $\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{5}{8}$	16 $\frac{3}{8}$	15 $\frac{3}{8}$	1 $\frac{1}{8}$	19 $\frac{5}{8}$	
47	18	7 $\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{5}{8}$	16 $\frac{3}{8}$	15 $\frac{3}{8}$	1 $\frac{1}{16}$	19 $\frac{1}{2}$	
51	18	7 $\frac{9}{16}$	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{5}{8}$	16 $\frac{3}{8}$	15 $\frac{3}{8}$	1 $\frac{1}{16}$	19 $\frac{9}{16}$	
115	16 $\frac{1}{4}$	14 $\frac{1}{16}$	1 $\frac{1}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	6 $\frac{13}{16}$	14 $\frac{3}{8}$	13	1 $\frac{5}{8}$	21 $\frac{1}{2}$	CB 165 16"
107	16 $\frac{1}{2}$	14	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	6 $\frac{13}{16}$	14 $\frac{3}{8}$	13	1 $\frac{9}{16}$	21 $\frac{3}{8}$	
100	16	14	1 $\frac{1}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	6 $\frac{13}{16}$	14 $\frac{3}{8}$	13	1 $\frac{1}{2}$	21 $\frac{1}{4}$	
90	16 $\frac{1}{4}$	12 $\frac{1}{16}$	1 $\frac{3}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{13}{16}$	14 $\frac{5}{8}$	13 $\frac{3}{8}$	1 $\frac{7}{16}$	20 $\frac{1}{4}$	CB 164 16"
83	16 $\frac{1}{8}$	12 $\frac{1}{16}$	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{1}{4}$	5 $\frac{13}{16}$	14 $\frac{5}{8}$	13 $\frac{3}{8}$	1 $\frac{3}{8}$	20 $\frac{1}{8}$	
76	16	12	1 $\frac{1}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	5 $\frac{13}{16}$	14 $\frac{5}{8}$	13 $\frac{3}{8}$	1 $\frac{5}{16}$	20	
68	16 $\frac{1}{4}$	8 $\frac{9}{16}$	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{1}{4}$	4 $\frac{1}{16}$	14 $\frac{5}{8}$	13 $\frac{3}{8}$	1 $\frac{7}{16}$	18 $\frac{3}{8}$	CB 163 16"
63	16 $\frac{1}{8}$	8 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	4 $\frac{1}{16}$	14 $\frac{5}{8}$	13 $\frac{3}{8}$	1 $\frac{3}{8}$	18 $\frac{1}{4}$	
58	16	8 $\frac{1}{2}$	1 $\frac{1}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	4 $\frac{1}{16}$	14 $\frac{5}{8}$	13 $\frac{3}{8}$	1 $\frac{5}{16}$	18 $\frac{1}{8}$	
50	16 $\frac{1}{4}$	7 $\frac{1}{16}$	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14 $\frac{15}{16}$	14	1 $\frac{1}{8}$	17 $\frac{3}{4}$	CB 162 16"
45	16 $\frac{1}{8}$	7 $\frac{1}{16}$	$\frac{9}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14 $\frac{15}{16}$	14	1 $\frac{1}{16}$	17 $\frac{5}{8}$	
40	16	7	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14 $\frac{15}{16}$	14	1	17 $\frac{1}{2}$	
43	15 $\frac{15}{16}$	7 $\frac{1}{16}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14 $\frac{15}{16}$	14	1	17 $\frac{3}{16}$	
38	16	6	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	2 $\frac{7}{8}$	14 $\frac{15}{16}$	14	1	17 $\frac{1}{8}$	CB 161 16"
35	15 $\frac{15}{16}$	6	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	2 $\frac{7}{8}$	14 $\frac{15}{16}$	14	1 $\frac{1}{16}$	17 $\frac{1}{16}$	

CARNEGIE STEEL COMPANY

CARNEGIE BEAM SECTIONS—Continued



ELEMENTS  
OF  
SECTIONS  
DECIMAL

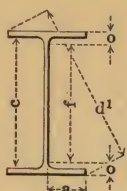


Section Index and Nominal Depth	Weight per Foot	Area of Section	Depth of Section	Flange Width	Web Thick- ness	Axis 1-1			Axis 2-2		
						I	S	r	I	S	r
						In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
CB 146 14"	305	89.70	16.890	16.000	1.406	4121.5	488.0	6.78	1539.1	192.4	4.14
	295	86.76	16.752	15.956	1.362	3948.1	471.4	6.75	1479.4	185.4	4.13
	285	83.82	16.614	15.912	1.318	3778.1	454.8	6.71	1420.7	178.6	4.12
	275	80.87	16.472	15.870	1.276	3607.8	438.1	6.68	1362.0	171.6	4.10
	265	77.93	16.332	15.826	1.232	3442.4	421.6	6.65	1304.2	164.8	4.09
	255	74.99	16.192	15.781	1.187	3280.0	405.1	6.61	1247.1	158.0	4.08
	245	72.06	16.050	15.738	1.144	3119.6	388.7	6.58	1190.6	151.3	4.06
	235	69.11	15.908	15.693	1.099	2961.9	372.4	6.55	1134.5	144.6	4.05
	225	66.17	15.764	15.650	1.056	2806.2	356.0	6.51	1079.1	137.9	4.04
	215	63.23	15.622	15.604	1.010	2654.7	339.9	6.48	1024.5	131.3	4.03
	205	60.28	15.478	15.559	.965	2505.0	323.7	6.45	970.3	124.7	4.01
	195	57.34	15.334	15.513	.919	2358.2	307.6	6.41	916.8	118.2	4.00
	185	54.41	15.188	15.469	.875	2213.5	291.5	6.38	863.9	111.7	3.98
	175	51.47	15.042	15.424	.830	2071.7	275.5	6.34	811.6	105.2	3.97
	165	48.52	14.896	15.377	.783	1932.6	259.5	6.31	759.9	98.8	3.96
	155	45.58	14.750	15.330	.736	1796.8	243.6	6.28	709.0	92.5	3.94
	145	42.64	14.602	15.284	.690	1662.7	227.7	6.24	658.5	86.2	3.93
	135	39.70	14.452	15.239	.645	1530.4	211.8	6.21	608.4	79.9	3.92
	125	36.75	14.304	15.191	.597	1402.1	196.0	6.18	559.4	73.7	3.90
	115	33.82	14.154	15.145	.551	1275.9	180.3	6.14	510.9	67.5	3.89
	131	38.52	14.162	15.468	.874	1358.4	191.8	5.94	547.3	70.8	3.77
CB 145 14"	105	30.88	14.370	12.101	.536	1169.6	162.8	6.15	292.6	48.4	3.08
	95	27.93	14.186	12.050	.485	1044.0	147.2	6.11	262.0	43.5	3.06
	85	24.99	14.000	12.000	.435	921.3	131.6	6.07	232.0	38.7	3.05
CB 144 14"	75	22.05	14.382	10.086	.468	823.5	114.5	6.11	134.5	26.7	2.47
	68	19.99	14.238	10.043	.425	738.8	103.8	6.08	120.6	24.0	2.46
	61	17.94	14.094	10.000	.382	656.2	93.1	6.05	107.1	21.4	2.44
CB 143 14"	58	17.05	14.242	8.070	.413	609.4	85.6	5.98	62.8	15.6	1.92
	53	15.59	14.122	8.035	.378	552.5	78.2	5.95	56.8	14.1	1.91
	48	14.12	14.000	8.000	.343	496.0	70.9	5.93	50.8	12.7	1.90
CB 142 14"	42	12.35	14.240	6.822	.342	431.5	60.6	5.91	30.2	8.8	1.56
	39	11.47	14.160	6.798	.318	398.3	56.3	5.89	27.7	8.2	1.56
	36	10.58	14.080	6.774	.294	365.6	51.9	5.88	25.4	7.5	1.55
	33	9.71	14.000	6.750	.270	333.4	47.6	5.86	23.0	6.8	1.54
CB 141 14"	38	11.18	14.000	6.855	.375	357.5	51.1	5.66	24.2	7.1	1.47
	30	8.82	13.964	6.000	.270	292.0	41.8	5.75	15.5	5.2	1.33

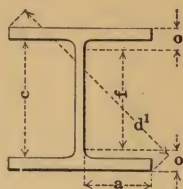


# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued



DIMENSIONS  
OF  
SECTIONS  
FRACTIONAL



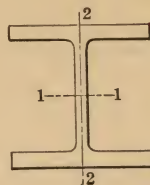
Weight per Foot	Depth of Section	Flange		Web		Distance					Section Index and Nominal Depth
		Width	Thick- ness	Thick- ness	1/2 Thick- ness +	a	c	f	o	d1	
Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
305	16 3/8	16	2 1/4	1 3/8	3/4	7 5/8	12 3/8	11	2 1/8	23 5/8	CB 146 14"
295	16 3/4	15 1/8	2 3/8	1 3/8	1 1/8	7 5/8	12 3/8	11	2 7/8	23 3/8	
285	16 3/8	15 1/8	2 3/8	1 3/8	1 1/8	7 5/8	12 3/8	11	2 1/8	23 3/8	
275	16 1/8	15 3/8	2 1/8	1 1/4	1 1/8	7 5/8	12 3/8	11	2 3/4	22 3/8	
265	16 1/8	15 1/8	2	1 1/4	5/8	7 5/8	12 3/8	11	2 1/8	22 3/8	
255	16 3/8	15 3/8	1 3/8	1 3/8	5/8	7 5/8	12 3/8	11	2 5/8	22 3/8	
245	16 1/8	15 3/8	1 1/8	1 1/8	5/8	7 5/8	12 3/8	11	2 9/8	22 3/8	
235	15 1/8	15 1/8	1 3/8	1 1/8	9/8	7 5/8	12 3/8	11	2 1/2	22 3/8	
225	15 3/8	15 3/8	1 1/8	1 1/8	9/8	7 5/8	12 3/8	11	2 3/8	22 3/8	
215	15 3/8	15 3/8	1 3/8	1	9/8	7 5/8	12 3/8	11	2 5/8	22 3/8	
205	15 1/8	15 1/8	1 3/8	1 1/8	1/2	7 5/8	12 3/8	11	2 1/4	21 1/8	CB 146 14"
195	15 1/8	15 1/8	1 1/8	1 1/8	1/2	7 5/8	12 3/8	11	2 3/8	21 1/8	
185	15 1/8	15 1/8	1 3/8	7/8	7/8	7 5/8	12 3/8	11	2 1/8	21 1/8	
175	15 1/8	15 1/8	1 3/8	1 1/8	7/8	7 5/8	12 3/8	11	2 3/8	21 1/8	
165	14 3/8	15 3/8	1 1/4	1 1/8	7/8	7 5/8	12 3/8	11	1 1/8	21 3/8	
155	14 3/8	15 1/8	1 3/8	3/4	3/8	7 5/8	12 3/8	11	1 3/8	21 1/8	
145	14 3/8	15 1/8	1 1/8	1 1/8	3/8	7 5/8	12 3/8	11	1 1/8	21 1/8	
135	14 1/8	15 1/4	1	5/8	3/8	7 5/8	12 3/8	11	1 3/4	21	CB 145 14"
125	14 1/8	15 1/8	1 1/8	5/8	3/8	7 5/8	12 3/8	11	1 1/8	20 3/8	
115	14 3/8	15 3/8	7/8	9/8	3/8	7 5/8	12 3/8	11	1 9/8	20 3/8	
131	14 3/8	15 1/8	7/8	7/8	7/8	7 5/8	12 3/8	11	1 5/8	21	
105	14 3/8	12 3/8	1	9/8	5/8	5 1/8	12 3/8	11	1 1/8	18 1/8	
95	14 3/8	12 3/8	7/8	1/2	1/4	5 1/8	12 3/8	11	1 5/8	18 3/8	CB 145 14"
85	14	12	1 1/8	7/8	1/4	5 1/8	12 3/8	11	1 1/2	18 3/8	
75	14 3/8	10 1/8	1 1/8	7/8	1/4	4 1/8	12 3/8	11 5/8	1 3/8	17 3/8	
68	14 1/4	10 1/8	1 1/8	7/8	1/4	4 1/8	12 3/8	11 5/8	1 1/8	17 3/8	
61	14 3/8	10	5/8	3/8	1/4	4 1/8	12 3/8	11 5/8	1 1/4	17 3/8	CB 144 14"
58	14 1/4	8 1/8	1 1/8	7/8	1/4	3 3/8	12 3/8	11 5/8	1 5/8	16 3/8	
53	14 3/8	8 1/8	5/8	3/8	1/4	3 3/8	12 3/8	11 5/8	1 1/4	16 1/4	
48	14	8	5/8	3/8	3/8	3 3/8	12 3/8	11 5/8	1 3/8	16 3/8	
42	14 1/4	6 1/8	9/8	5/8	3/8	3 1/4	13 1/8	12 1/4	1	15 1/8	CB 143 14"
39	14 3/8	6 1/8	1/2	5/8	3/8	3 1/4	13 1/8	12 1/4	1	15 1/8	
36	14 1/8	6 3/4	1/2	5/8	3/8	3 1/4	13 1/8	12 1/4	1 5/8	15 3/8	
33	14	6 3/4	7/8	1/4	3/8	3 1/4	13 1/8	12 1/4	3/8	15 3/8	
38	14	6 3/8	7/8	3/8	3/8	3 1/4	13 1/8	12 1/4	3/8	15 3/8	CB 143 14"
30	13 1/8	6	7/8	1/4	3/8	2 3/8	13 1/8	12 1/4	3/8	15 3/8	

# CARNEGIE STEEL COMPANY

## CARNEGIE BEAM SECTIONS—Continued



ELEMENTS  
OF  
SECTIONS  
DECIMAL

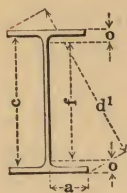


Section Index and Nominal Depth	Weight per Foot	Area of Section	Depth of Section	Flange Width	Web Thick- ness	Axis 1-1			Axis 2-2		
						I	S	r	I	S	r
	Lbs.	In. <sup>2</sup>	In.	In.	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
CB 127 12"	230	67.64	12.000	14.980	1.980	1461.9	243.7	4.65	945.5	126.2	3.74
	220	64.70	12.000	14.735	1.735	1426.6	237.8	4.70	898.2	121.9	3.73
	210	61.76	12.000	14.490	1.490	1391.3	231.9	4.75	852.9	117.7	3.72
	200	58.82	12.000	14.245	1.245	1356.1	226.0	4.80	809.5	113.7	3.71
	190	55.88	12.000	14.000	1.000	1320.8	220.1	4.86	767.8	109.7	3.71
CB 126 12"	180	52.94	12.000	14.735	1.492	1218.1	203.0	4.80	702.4	95.3	3.64
	170	50.00	12.000	14.490	1.247	1182.8	197.1	4.86	666.9	92.1	3.65
	160	47.06	12.000	14.245	1.002	1147.5	191.3	4.94	633.0	88.9	3.67
	150	44.12	12.000	14.000	.757	1112.2	185.4	5.02	600.4	85.8	3.69
CB 125 12"	140	41.18	12.000	12.736	1.376	934.8	155.8	4.76	372.4	58.5	3.01
	130	38.24	12.000	12.491	1.131	899.5	149.9	4.85	350.5	56.1	3.03
	120	35.28	12.000	12.245	.885	864.1	144.0	4.95	329.6	53.8	3.06
	110	32.34	12.000	12.000	.640	828.8	138.1	5.06	309.9	51.6	3.10
CB 124 12"	100	29.41	12.000	10.613	1.121	659.0	109.8	4.73	167.5	31.6	2.39
	91	26.76	12.000	10.392	.900	627.2	104.5	4.84	155.9	30.0	2.41
	83	24.41	12.000	10.196	.704	598.9	99.8	4.95	147.0	28.8	2.45
	75	22.05	12.000	10.000	.508	570.7	95.1	5.09	138.5	27.7	2.51
CB 123 12"	50	14.69	12.258	8.071	.361	400.5	65.4	5.22	57.5	14.2	1.98
	45	13.23	12.130	8.036	.326	356.9	58.8	5.19	51.2	12.7	1.97
	40	11.76	12.000	8.000	.290	313.7	52.3	5.17	44.9	11.2	1.95
CB 122 12"	36	10.59	12.236	6.568	.308	280.1	45.8	5.14	25.4	7.7	1.55
	32	9.40	12.118	6.534	.274	246.3	40.7	5.12	22.3	6.8	1.54
	28	8.22	12.000	6.500	.240	213.4	35.6	5.10	19.2	5.9	1.53
CB 121 12"	34	9.99	12.022	6.635	.375	238.1	39.6	4.88	21.0	6.3	1.45
	25	7.34	11.924	6.000	.240	183.0	30.7	4.99	13.8	4.6	1.37

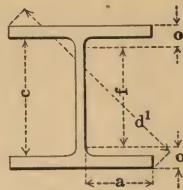


# CARNEGIE BEAM SECTIONS

## CARNEGIE BEAM SECTIONS—Continued



DIMENSIONS  
OF  
SECTIONS  
FRACTIONAL



Weight per Foot	Depth of Section	Flange		Web		Distance					Section Index and Nominal Depth
		Width	Thick- ness	Thick- ness	$\frac{1}{2}$ Thick- ness +	a	c	f	o	d <sup>1</sup>	
Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
230	12	15	1 $\frac{1}{16}$	2	1	6 $\frac{1}{8}$	8 $\frac{5}{8}$	7 $\frac{1}{4}$	2 $\frac{3}{8}$	19 $\frac{3}{16}$	CB 127 12"
220	12	14 $\frac{3}{4}$	1 $\frac{1}{16}$	1 $\frac{3}{4}$	$\frac{7}{8}$	6 $\frac{1}{8}$	8 $\frac{5}{8}$	7 $\frac{1}{4}$	2 $\frac{3}{8}$	19	
210	12	14 $\frac{1}{2}$	1 $\frac{1}{16}$	1 $\frac{1}{2}$	$\frac{3}{4}$	6 $\frac{1}{8}$	8 $\frac{5}{8}$	7 $\frac{1}{4}$	2 $\frac{3}{8}$	18 $\frac{13}{16}$	
200	12	14 $\frac{1}{4}$	1 $\frac{1}{16}$	1 $\frac{1}{4}$	$\frac{5}{8}$	6 $\frac{1}{8}$	8 $\frac{5}{8}$	7 $\frac{1}{4}$	2 $\frac{3}{8}$	18 $\frac{5}{8}$	
190	12	14	1 $\frac{1}{16}$	1	$\frac{1}{2}$	6 $\frac{1}{8}$	8 $\frac{5}{8}$	7 $\frac{1}{4}$	2 $\frac{3}{8}$	18 $\frac{1}{16}$	
180	12	14 $\frac{3}{4}$	1 $\frac{5}{16}$	1 $\frac{1}{2}$	$\frac{3}{4}$	6 $\frac{5}{8}$	9 $\frac{3}{8}$	8	2	19	CB 126 12"
170	12	14 $\frac{1}{2}$	1 $\frac{5}{16}$	1 $\frac{1}{4}$	$\frac{5}{8}$	6 $\frac{5}{8}$	9 $\frac{3}{8}$	8	2	18 $\frac{13}{16}$	
160	12	14 $\frac{1}{4}$	1 $\frac{5}{16}$	1	$\frac{9}{16}$	6 $\frac{5}{8}$	9 $\frac{3}{8}$	8	2	18 $\frac{5}{8}$	
150	12	14	1 $\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{16}$	6 $\frac{5}{8}$	9 $\frac{3}{8}$	8	2	18 $\frac{7}{16}$	
140	12	12 $\frac{3}{4}$	1 $\frac{1}{16}$	1 $\frac{3}{8}$	$\frac{3}{4}$	5 $\frac{1}{16}$	9 $\frac{13}{16}$	8 $\frac{5}{8}$	1 $\frac{1}{16}$	17 $\frac{1}{8}$	CB 125 12"
130	12	12 $\frac{1}{2}$	1 $\frac{1}{16}$	1 $\frac{1}{8}$	$\frac{5}{8}$	5 $\frac{1}{16}$	9 $\frac{13}{16}$	8 $\frac{5}{8}$	1 $\frac{1}{16}$	17 $\frac{3}{8}$	
120	12	12 $\frac{1}{4}$	1 $\frac{1}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	5 $\frac{1}{16}$	9 $\frac{13}{16}$	8 $\frac{5}{8}$	1 $\frac{1}{16}$	17 $\frac{1}{8}$	
110	12	12	1 $\frac{1}{16}$	$\frac{5}{8}$	$\frac{3}{8}$	5 $\frac{1}{16}$	9 $\frac{13}{16}$	8 $\frac{5}{8}$	1 $\frac{1}{16}$	17	
100	12	10 $\frac{5}{8}$	1 $\frac{3}{16}$	1 $\frac{1}{8}$	$\frac{9}{16}$	4 $\frac{3}{4}$	10 $\frac{5}{16}$	9 $\frac{1}{4}$	1 $\frac{3}{8}$	16	CB 124 12"
91	12	10 $\frac{3}{8}$	1 $\frac{3}{16}$	$\frac{7}{8}$	$\frac{1}{2}$	4 $\frac{3}{4}$	10 $\frac{5}{16}$	9 $\frac{1}{4}$	1 $\frac{3}{8}$	15 $\frac{7}{8}$	
83	12	10 $\frac{1}{8}$	1 $\frac{3}{16}$	1 $\frac{1}{16}$	$\frac{5}{8}$	4 $\frac{3}{4}$	10 $\frac{5}{16}$	9 $\frac{1}{4}$	1 $\frac{3}{8}$	15 $\frac{3}{4}$	
75	12	10	1 $\frac{3}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	4 $\frac{3}{4}$	10 $\frac{5}{16}$	9 $\frac{1}{4}$	1 $\frac{3}{8}$	15 $\frac{1}{8}$	
50	12 $\frac{1}{4}$	8 $\frac{1}{16}$	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{7}{8}$	10 $\frac{15}{16}$	9 $\frac{7}{8}$	1 $\frac{3}{16}$	14 $\frac{1}{16}$	CB 123 12"
45	12 $\frac{1}{8}$	8 $\frac{1}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	10 $\frac{15}{16}$	9 $\frac{7}{8}$	1 $\frac{1}{8}$	14 $\frac{9}{16}$	
40	12	8	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	10 $\frac{15}{16}$	9 $\frac{7}{8}$	1 $\frac{1}{16}$	14 $\frac{7}{16}$	
36	12 $\frac{1}{4}$	6 $\frac{9}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{3}{16}$	11 $\frac{1}{8}$	10 $\frac{3}{8}$	1 $\frac{5}{16}$	13 $\frac{7}{8}$	CB 122 12"
32	12 $\frac{1}{8}$	6 $\frac{9}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{16}$	3 $\frac{3}{16}$	11 $\frac{1}{8}$	10 $\frac{3}{8}$	$\frac{7}{8}$	13 $\frac{13}{16}$	
28	12	6 $\frac{1}{2}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	3 $\frac{3}{16}$	11 $\frac{1}{8}$	10 $\frac{3}{8}$	1 $\frac{3}{16}$	13 $\frac{1}{16}$	
34	12	6 $\frac{5}{8}$	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{3}{16}$	11 $\frac{1}{8}$	10 $\frac{3}{8}$	1 $\frac{3}{16}$	13 $\frac{3}{4}$	
25	11 $\frac{15}{16}$	6	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	2 $\frac{15}{16}$	11 $\frac{1}{8}$	10 $\frac{3}{8}$	1 $\frac{3}{16}$	13 $\frac{3}{8}$	CB 121 12"

# CARNEGIE STEEL COMPANY

## CARNEGIE BEAM SECTIONS—Continued



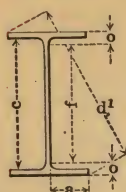
ELEMENTS  
OF  
SECTIONS  
DECIMAL



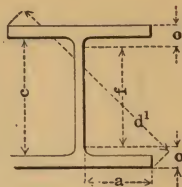
Section Index and Nominal Depth	Weight per Foot	Area of Section	Depth of Section	Flange Width	Web Thick- ness	Axis 1-1			Axis 2-2		
						I	S	r	I	S	r
						In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
CB 105 10"	140	41.17	10.000	13.177	1.777	623.2	124.6	3.89	391.4	59.4	3.08
	132	38.81	10.000	12.941	1.541	603.5	120.7	3.94	369.6	57.1	3.09
	124	36.46	10.000	12.706	1.306	583.9	116.8	4.00	349.0	54.9	3.09
	116	34.11	10.000	12.471	1.071	564.3	112.9	4.07	329.4	52.8	3.11
	108	31.76	10.000	12.236	.836	544.8	109.0	4.14	310.7	50.8	3.13
	100	29.40	10.000	12.000	.600	525.1	105.0	4.23	292.8	48.8	3.16
CB 104 10"	92	27.06	10.000	10.647	1.162	423.2	84.6	3.96	163.1	30.6	2.50
	84	24.70	10.000	10.411	.926	403.6	80.7	4.04	152.0	29.2	2.48
	77	22.65	10.000	10.206	.721	386.5	77.3	4.13	142.9	28.0	2.51
	70	20.59	10.000	10.000	.515	369.3	73.9	4.24	134.3	26.9	2.55
CB 103 10"	63	18.53	10.000	9.412	.787	300.4	60.1	4.03	85.2	18.1	2.14
	56	16.47	10.000	9.206	.581	283.2	56.6	4.15	79.5	17.3	2.20
	49	14.41	10.000	9.000	.375	266.0	53.2	4.30	74.2	16.5	2.27
CB 102 10"	42	12.35	10.000	8.324	.644	190.4	38.1	3.93	36.8	8.9	1.73
	36	10.58	10.000	8.147	.467	175.6	35.1	4.07	34.4	8.5	1.80
	31	9.11	10.000	8.000	.320	163.4	32.7	4.23	32.5	8.1	1.89
CB 101 10"	30	8.82	10.228	6.068	.298	163.2	31.9	4.30	18.5	6.1	1.45
	26	7.64	10.098	6.029	.259	139.5	27.6	4.27	15.7	5.2	1.43
	23	6.76	10.000	6.000	.230	122.2	24.4	4.25	13.7	4.6	1.43
	21	6.17	9.902	6.000	.230	107.6	21.7	4.18	12.0	4.0	1.39
CB 93 9"	48	14.11	9.242	9.082	.398	221.1	47.8	3.96	73.8	16.3	2.29
	43	12.65	9.122	9.041	.357	195.5	42.9	3.93	65.4	14.5	2.28
	38	11.17	9.000	9.000	.316	170.4	37.9	3.91	57.1	12.7	2.26
CB 92 9"	35	10.29	9.192	6.556	.335	155.4	33.8	3.89	26.6	8.1	1.61
	32	9.40	9.096	6.528	.307	140.5	30.9	3.87	24.0	7.4	1.60
	29	8.53	9.000	6.500	.279	126.0	28.0	3.84	21.5	6.6	1.59

# CARNEGIE BEAM SECTIONS

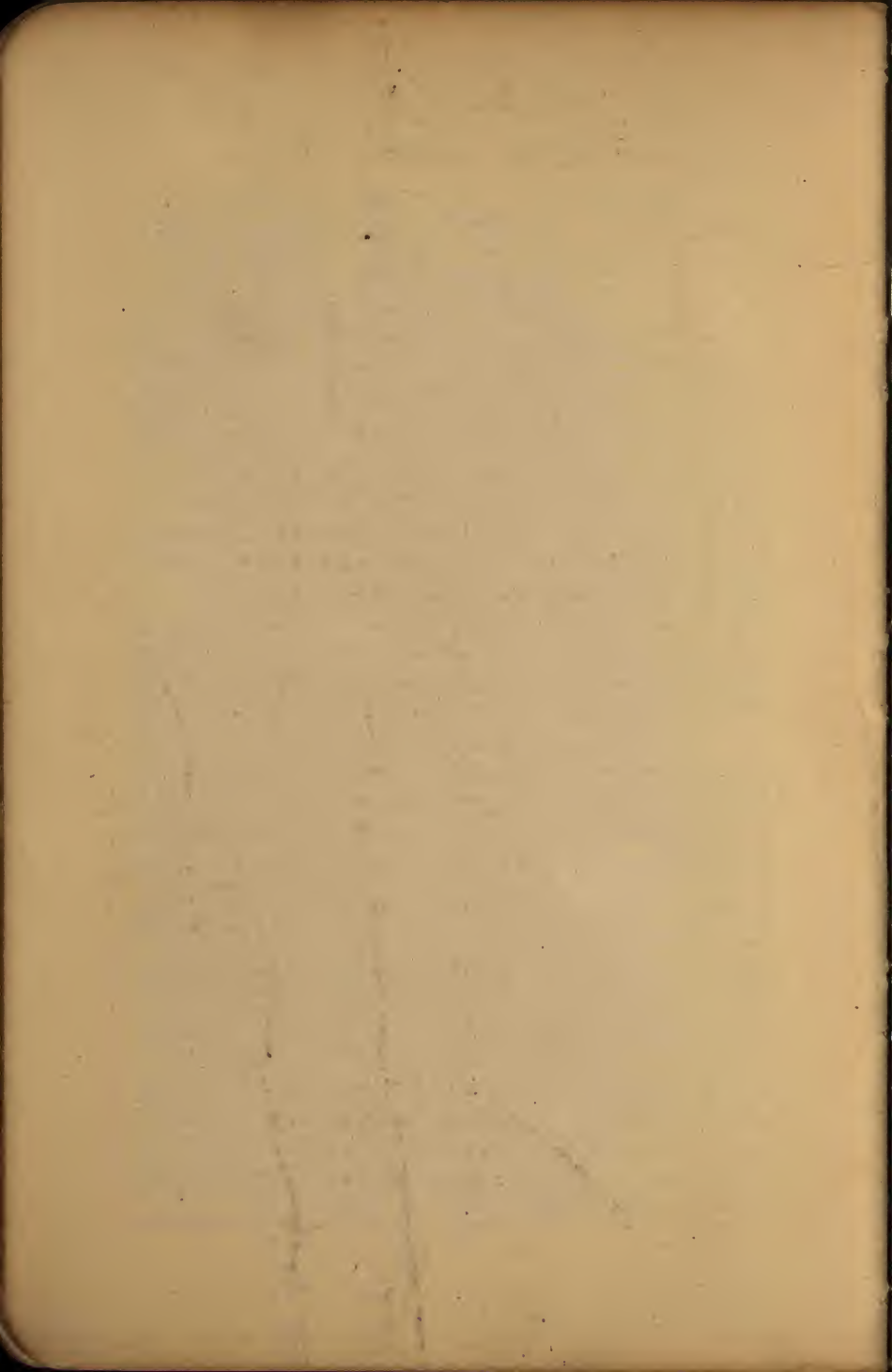
## CARNEGIE BEAM SECTIONS—Continued



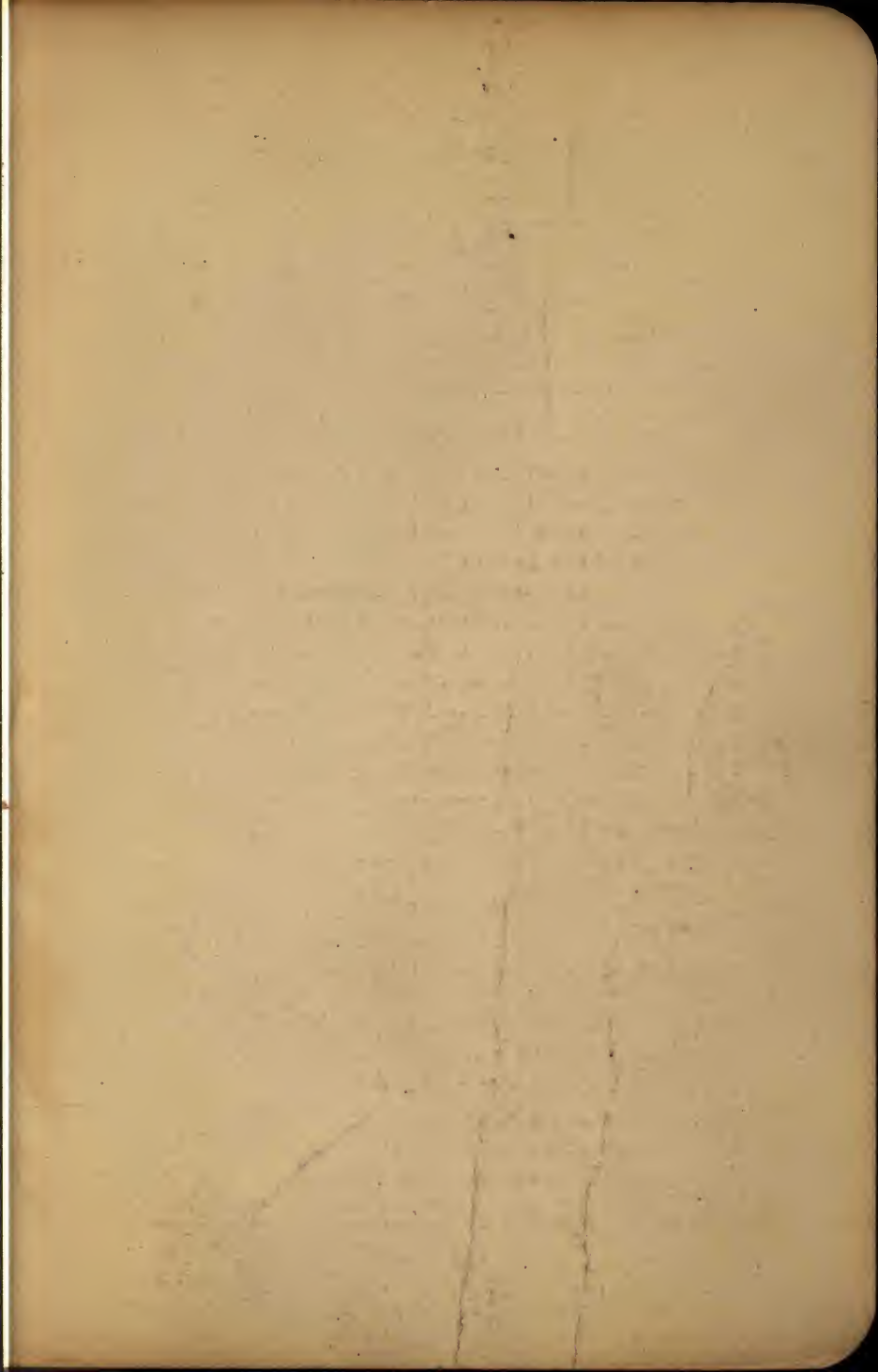
DIMENSIONS  
OF  
SECTIONS  
FRACTIONAL



Weight per Foot	Depth of Section	Flange		Web		Distance					Section Index and Nominal Depth
		Width	Thick- ness	Thick- ness	Thick- ness +	a	c	f	o	d <sup>1</sup>	
Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
140	10	13 <sup>3</sup> / <sub>16</sub>	1	1 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>4</sub>	7 <sup>15</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	16 <sup>9</sup> / <sub>16</sub>	CB 105 10"
132	10	12 <sup>15</sup> / <sub>16</sub>	1	1 <sup>9</sup> / <sub>16</sub>	1 <sup>13</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>4</sub>	7 <sup>15</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	16 <sup>9</sup> / <sub>16</sub>	
124	10	12 <sup>11</sup> / <sub>16</sub>	1	1 <sup>5</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>4</sub>	7 <sup>15</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	16 <sup>9</sup> / <sub>16</sub>	
116	10	12 <sup>7</sup> / <sub>16</sub>	1	1 <sup>1</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>4</sub>	7 <sup>15</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	16	
108	10	12 <sup>3</sup> / <sub>4</sub>	1	1 <sup>3</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>4</sub>	7 <sup>15</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	15 <sup>13</sup> / <sub>16</sub>	
100	10	12	1	5 <sup>8</sup> / <sub>16</sub>	5 <sup>8</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>4</sub>	7 <sup>15</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	15 <sup>9</sup> / <sub>16</sub>	
92	10	10 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	5 <sup>8</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>	14 <sup>5</sup> / <sub>8</sub>	CB 104 10"
84	10	10 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>8</sub>	
77	10	10 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>4</sup> / <sub>8</sub>	3 <sup>8</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>8</sub>	
70	10	10	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>8</sub>	
63	10	9 <sup>7</sup> / <sub>16</sub>	5 <sup>8</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>4</sub>	CB 103 10"
56	10	9 <sup>3</sup> / <sub>16</sub>	5 <sup>8</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>8</sub>	
49	10	9	5 <sup>8</sup> / <sub>16</sub>	3 <sup>8</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>8</sub>	
42	10	8 <sup>5</sup> / <sub>16</sub>	3 <sup>8</sup> / <sub>16</sub>	5 <sup>8</sup> / <sub>16</sub>	3 <sup>8</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>16</sub>	CB 102 10"
36	10	8 <sup>1</sup> / <sub>8</sub>	3 <sup>8</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>	1 <sup>4</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>	
31	10	8	3 <sup>8</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	12 <sup>13</sup> / <sub>16</sub>	
30	10 <sup>1</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	11 <sup>15</sup> / <sub>16</sub>	CB 101 10"
26	10 <sup>1</sup> / <sub>8</sub>	6	3 <sup>1</sup> / <sub>16</sub>	1 <sup>4</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	11 <sup>13</sup> / <sub>16</sub>	
23	10	6	3 <sup>8</sup> / <sub>16</sub>	1 <sup>4</sup> / <sub>4</sub>	1 <sup>8</sup> / <sub>8</sub>	2 <sup>15</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	11 <sup>11</sup> / <sub>16</sub>	
21	9 <sup>7</sup> / <sub>8</sub>	6	5 <sup>1</sup> / <sub>16</sub>	1 <sup>4</sup> / <sub>4</sub>	1 <sup>8</sup> / <sub>8</sub>	2 <sup>15</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	5 <sup>8</sup> / <sub>16</sub>	11 <sup>9</sup> / <sub>16</sub>	
48	9 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	3 <sup>8</sup> / <sub>16</sub>	1 <sup>4</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>8</sub>	8	7	1 <sup>1</sup> / <sub>8</sub>	13	CB 93 9"
43	9 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	3 <sup>8</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>	8	7	1 <sup>1</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>8</sub>	
38	9	9	1 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>	8	7	1	12 <sup>3</sup> / <sub>4</sub>	
35	9 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	8	7	1 <sup>1</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	CB 92 9"
32	9 <sup>1</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	8	7	1 <sup>1</sup> / <sub>16</sub>	11 <sup>3</sup> / <sub>8</sub>	
29	9	6 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>4</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	8	7	1	11 <sup>1</sup> / <sub>8</sub>	









# CARNEGIE STEEL COMPANY

## OFFICES

### GENERAL OFFICES:

Pittsburgh, Carnegie Building, 434 Fifth Avenue.

### DISTRICT OFFICES:

Birmingham, Brown-Marr Building, 2000 First Avenue, North,  
Boston, 120 Franklin Street,  
Buffalo, The Marine Trust Co. Building, 233-239 Main Street,  
Chicago, 205 South La Salle Street,  
Cincinnati, Union Trust Building, Fourth and Walnut Streets,  
Cleveland, Rockefeller Building, 704 Superior Avenue, N. W.,  
Denver, First National Bank Building, 17th and Stout Streets,  
Detroit, 2130 Buhl Building, 535 Griswold Street,  
New Orleans, Maison Blanche, 321 Canal Street,  
New York, Empire Building, 71 Broadway,  
Philadelphia, Widener Building, Juniper and Chestnut Streets,  
Pittsburgh, Carnegie Building, 434 Fifth Avenue,  
St. Louis, 505 Olive Street,  
St. Paul, 1308 Merchants National Bank Building, 4th & Robert Sts.

### EXPORT REPRESENTATIVES:

UNITED STATES STEEL PRODUCTS CO.,

New York, Hudson Terminal, 30 Church Street.

### PACIFIC COAST REPRESENTATIVES:

UNITED STATES STEEL PRODUCTS CO., PACIFIC COAST DEPT.  
Los Angeles, 2087 East Blauson Avenue,  
Portland, Belling Building, Sixth and Alder Streets,  
San Francisco, Rialto Building, 112 New Montgomery Street,  
Seattle, Fourth Avenue South and Connecticut Street.